DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY
2300 E STREET NW
WASHINGTON DC 20372-5300

Canc frp: Dec 2005
IN REPLY REFER TO
BUMEDNOTE 6230
BUMED-M3F4
21 Dec 2004

BUMED NOTICE 6230

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Medical Department Personnel

Subj: TO PROVIDE IMMUNIZATION REQUIREMENTS AND RECOMMENDATIONS AND TO INTRODUCE ADULT AND CHILD IMMUNIZATIONS RECORD FORMS

Ref: (a) BUMEDINST 6230.15
(b) OPNAVINST 6120.3
(c) ASD(HA) memo of 29 Oct 97 (NOTAL)
(d) CNO WASHINGTON DC 121410Z Apr 04
(e) CDC, MMWR, Feb. 8, 2002;51 (RR-2); 1-36.
(f) CDC, MMWR, Apr. 9, 1993;42 (RR-4); 1-18.
(g) CDC, MMWR, Sep. 6, 1996;45 (RR-12); 1-35.
(h) BUMED WASHINGTON DC 091444Z Jun 00
(i) BUMED WASHINGTON DC 281951Z Aug 01
(j) SECNAVINST 6230.4
(k) CDC, MMWR, Jan. 8, 1999;48 (RR-1); 1-21.

Encl: (1) Index of Current Recommendations of the Advisory Committee on Immunization Practices (ACIP)
(2) Guidelines for Timing and Spacing of Immunobiologics
(3) National Vaccine Injury Compensation Program Vaccine Injury Table
(4) Vaccine Adverse Event Reporting System Form VAERS-1(FDA)
(5) Recommended Childhood and Adolescent Immunization Schedule - United States, 2004
(6) Adult Dosages and Routes of Vaccine Administration
(7) Recommended Adult Immunization Schedule - United States, 2003-2004
(8) Preventive Medicine Points of Contact and Information Resources
(9) Civilian Immunization Information Resources
(10) Terms, Abbreviations, and Acronyms

1. Purpose. To update requirements and recommendations for administering immunizing agents to Navy personnel, beneficiaries, civilian employees, and volunteers. To implement the forms, NAVMED 6230/4 (1-2004), Adult Immunizations Record, and NAVMED 6230/5 (1-2004), Child Immunizations Record.

2. Cancellation. BUMEDNOTE 6230 dated 20 Apr 1998, BUMEDNOTE 6230 dated 22 Apr 2002, NAVMED 6230/4 (11-2001), Adult Immunizations Record (Test Form), and NAVMED 6230/5 (11-2001), Child Immunizations Record (Test Form).

3. General Considerations

a. Immunizations and Chemoprophylaxis. Reference (a) provides basic guidance on immunizations and chemoprophylaxis. Requirements or recommendations of reference (a), not specifically modified by this notice, remain in effect.

b. BUMEDNOTE 6230 of 22 Apr 2002 directed Navy medical departments to document immunizations on the NAVMED 6230/4 (11-2001) (Test Form), Adult Immunizations Record, and NAVMED 6230/5 (11-2001) (Test Form), Child Immunizations Record. These forms were field-tested and found to provide excellent documentation of immunization information.

c. Vaccine Recipients

(1) This notice applies to Navy personnel on active duty, Navy recruits, Navy Reserve Component personnel, Navy Alert Forces, non-active duty beneficiaries, civilian employees, contract employees, civilian volunteers, and students who require occupationally indicated vaccination.

(2) Civilian personnel working under contract to the Navy must meet the requirements of this notice. Contractors must provide these immunizations to their employees. Immunization requirements must be addressed in Service contracts.

(3) Federal civilian employees serving the Military Services who are designated emergency-essential or are subject to rapid deployment have the same immunization requirements as active duty military personnel. Required immunizations and treatment related to adverse effects of vaccination will be provided without charge at military activities.

d. Standard of Care. Before administering immunizing agents, health care providers should be familiar with the contents of this notice and the appropriate package insert. Vaccine administration policies should follow current Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) recommendations, unless specifically directed otherwise in this notice, or subsequent directives. Enclosure (1) is an index of ACIP recommendations, which include routine immunization schedules for all age groups. The CDC recommended childhood and adolescent vaccination schedule is revised annually and is published in January. Recommendations for vaccination of adolescents and adults are revised less frequently. Influenza vaccine recommendations are published annually. The CDC's ACIP vaccine

recommendations and immunization schedules can be accessed from the CDC's National Immunization Program Web site at http://www.cdc.gov/nip.

e. Immunization Program Assessment. It is recommended that all commands holding medical records conduct a periodic review of immunization practices in order to ensure current standards of care and documentation. The self-assessment should include reviewing a representative sample of health records for documentation of compliance. Commands are encouraged to check their medical records against immunization entries in the DEERS. DEERS immunization entries can be checked through Navy Medicine Online (NMO). Commands should retain records of these assessments and of their efforts to improve vaccine coverage. Commands may obtain assistance regarding immunization program assessment from staff preventive medicine officers, military treatment facility (MTF) clinical epidemiologists or preventive medicine departments, the cognizant Navy Environmental and Preventive Medicine Unit (NEPMU), or the Navy Environmental Health Center (NEHC).

f. Immunization Status. Immunization status should be reviewed as part of each medical visit when vital signs are obtained and documented. Reference (b) directs that an immunization review will be done annually as part of the required Preventive Health Assessment. All personnel needing recommended immunizations should be immunized promptly, preferably during the same visit. Others should be encouraged to be immunized as soon as possible.

g. Immunization Documentation. Health care providers who administer immunizations, toxoids, and other immunobiologicals must record pertinent vaccine related information on the PHS 731 (Yellow Card), in an electronic database that transmits data to DEERS, and in the appropriate location in the health record. Do not use the DD 2766 form for recording immunizations because it does not accommodate entry of all required data. The new adult and child immunizations records, NAVMED 6230/4 (Rev. 1-2004) and NAVMED 6230/5 (Rev. 1-2004), have spaces for all required information.

(1) The required immunization information is: date, manufacturer, lot number, dose given, site and route of administration; the Vaccine Information Sheet (VIS) edition given (if required for that vaccine); the name, address, and title of the person administering the vaccine; and the MTF or other facility.

(2) If recruits do not receive an immunization due to either evidence of prior immunization or serological immunity, that information must be recorded on the Adult Immunizations Record (NAVMED 6230/4 (Rev. 1-2004)), on the PHS 731 (International Certificate of Vaccination) (Yellow Card) and in an electronic database that records that information in the DEERS.

(3) The PHS 731 (International Certificate of Vaccination) (Yellow Card) serves as the individual's official record of immunization. The PHS 731 should remain in the custody of the individual or legal guardian and should be updated at the time of immunization. This document may be required for travel to certain countries. Consult the cognizant NEPMU or local travel clinic for additional immunization-related information pertaining to international travel.

h. Automated Immunization Tracking

(1) Reference (c) directs immunization data for active duty service personnel are entered into DEERS. Reference (d) requires and provides guidance for submission of anthrax and smallpox immunization status reports.

(a) The command that administers the immunization is responsible for entering immunization data into the electronic tracking system, regardless of whether the administering activity is that recipient's parent command.

(b) The Shipboard Non-Tactical ADP Program (SNAP) Automated Medical System (SAMS) is the preferred Navy service electronic system for capturing immunizations. Automated tracking is required for all immunizations, including those given to contractors and civilians.

(c) Immunization data for Navy Reserve personnel will be tracked and reported through the Reserve Automated Medical Interim System, RAMIS. SAMS is used for tracking of immunizations in the Marine Corps Reserve.

(2) A central repository for all SAMS immunization data resides at the Naval Medical Information Management Center (NMIMC). MTFs and operational units will transfer electronic immunization data collected in SAMS on a weekly basis. Immunization data from the Naval Reserve will be transmitted directly to DEERS through the central interface. If electronic data transmission from a specific unit is not feasible, SAMS data may be saved to a 3.5-inch floppy disk and mailed to NMIMC. MTFs will have the capability to query the DEERS database through the immunization tracking system NavImmune to obtain immunization information on Service personnel in order to update the local SAMS database. Contact NavImmune to obtain access to the DEERS Immunization Compliance Reporting System (ICRS) Web site at gwparker@us.med.navy.mil, (301) 319-1094, or DSN 285-1094. The Immunization Tracking System (ITS) Web site address is https://imcenter.med.navy.mil/its.

(3) Customer support for SAMS is available. Phone numbers and e-mail addresses are: East coast (Norfolk) (757) 443-0741 or DSN 646-0741, e-mail samseast@scn.spawar.navy.mil; West coast (San Diego) (619) 556-9092 or DSN 526-9092, e-mail samswest@scn.spawar.navy.mil; Pacific (Pearl Harbor) (808) 471-4600

x607, e-mail samspac@scn.spawar.navy.mil. For customer or technical support from NMIMC, call (301) 319-1200 or DSN 319-1200. The e-mail address is helpdesk@us.med.navy.mil or sams@us.med.navy.mil.

i. Jet Injectors. The use of jet injectors for routine immunization is prohibited unless specifically authorized by the Bureau of Medicine and Surgery.

4. Clinical Considerations

a. Immunization Intervals and Missed Immunization Doses. Doses given at less than the recommended interval may not provide adequate antibody response and should not be counted as part of the primary series. Restarting or adding extra doses is not necessary when an initial series of a vaccine or toxoid is interrupted because increasing the interval between doses in a series does not diminish immunization efficacy. The chapter Timing and Spacing of Immunobiologics, in CDC's General Recommendations on Immunization, reference (e), provides detailed ACIP general principles for vaccine scheduling and guidelines for administration, timing and spacing of vaccines and antibody-containing products. Enclosure (2) contains ACIP guidelines for spacing of live and inactivated vaccines, and for administering antibody-containing products and vaccines.

b. Hypersensitivity or Allergy. Review the manufacturer's package insert prior to administering any biological product. Determine whether the individual has previously shown any unusual degree of adverse reaction or allergy to a specific immunizing agent or component, such as eggs, preservatives, or antibiotics. Defer individuals with reported hypersensitivity to immunizations or components from immunization and refer to an allergy specialist for evaluation unless already done in the past.

c. Screening for Pregnancy. In women of childbearing age, a screening test for pregnancy is not routinely required before administering vaccines or toxoids, including live virus vaccines. Reference (e) provides guidelines for immunization of pregnant women and should be kept available at all immunization sites. The following precautions should be taken to avoid unintentional immunization during pregnancy:

(1) In a private and confidential manner ask whether patient is pregnant. Advise that factors to consider before responding include missed menses, late or abnormal menses, and unprotected sexual activity since her last menses. If the answer is "yes," "maybe," or "uncertain," then exclude from immunization and refer for evaluation. If the answer is "no," immunize.

(2) If a live virus vaccine is to be administered, advise the woman to avoid becoming pregnant for 1 month following immunization against measles, mumps, smallpox or varicella (chickenpox), and 3 months following immunization against rubella

or MMR (Mumps, Measles, and Rubella). For yellow fever, check ACIP recommendations.

(3) For smallpox vaccinations, women of childbearing age require a specific pre-immunization form that assesses the date of the last menstrual period. See paragraph 7n below for additional details.

d. Pre-immunization Serological Screening for Susceptibility. Activities providing immunizations may elect either to immunize all individuals, or to screen individuals if cost-effective and logistically practical. Individuals with serological evidence of immunity do not need to be immunized. Test results will be entered on the appropriate documents. It is not necessary to immunize or screen persons with a reliable history of varicella. If susceptibility to one or two of the MMR components is identified, persons may be immunized with the specific component or with the trivalent vaccine.

e. Human Immunodeficiency Virus Infection and Vaccine Administration. HIV testing and documentation is not required before administering vaccines or toxoids. Consult references (f) and (g) or the most current ACIP recommendations for guidance on immunizing persons known to be HIV infected or otherwise immunocompromised.

f. Administering Specific Immunizing Agents to Asplenic Individuals. Asplenic persons should receive pneumococcal polysaccharide vaccine (PPV23, 23 valent), *Haemophilus influenza* type b vaccine (conjugate or polysaccharide), and meningococcal vaccine (age 24 months and older). Consult current ACIP recommendations for guidance concerning booster doses for asplenic personnel. No immunizations are contraindicated in asplenic persons.

g. Informing Vaccine Recipients About Potential Adverse Effects. Section 2126 of the Public Health Service Act, effective October 1, 1994, requires health care providers who administer any vaccine for: anthrax, diphtheria, tetanus, pertussis, hepatitis A, hepatitis B, *Haemophilus influenzae* type b (Hib), influenza, measles, mumps, rubella, pneumococcus (PPV23 and PCV7), polio, smallpox (vaccinia), or varicella to provide a copy of the relevant VIS before administering the immunization. If there is no VIS for a combination immunization use the VISs for both component immunizations. The VIS must be given to any adult immunization recipient, and to the parent or legal representative of any child immunization recipient. Providers will use only the VIS prepared by the Centers for Disease Control and Prevention (CDC). VISs can be downloaded, in multiple languages, from the CDC Web site at: http://www.cdc.gov/nip/publications/VIS. They can also be obtained from NEHC, the regional NEPMU, and the state or county health department. The edition date of the VIS must be recorded on the new adult and child immunizations records, NAVMED 6230/4 (Rev. 1-2004) and NAVMED 6230/5 (Rev. 1-2004).

h. Reporting Adverse Events After Immunization

(1) Enclosure (3) lists events that must be reported using the Vaccine Adverse Event Reporting System (VAERS) form, enclosure (4). Reporting other significant vaccine related or possibly related events is encouraged. In particular, if a patient believes he or she has had a vaccine related adverse event and wants a VAERS to be submitted, a provider should submit such a report with all relevant information.

(2) Mail all completed VAERS forms to: Commanding Officer, Navy Environmental Health Center, Attention: Preventive Medicine Directorate, 620 John Paul Jones Circle, Suite 1100, Portsmouth, VA 23708-2103, or fax to (757) 953-0685. NEHC will forward the VAERS forms to the address listed on the form. Retain a record copy in the medical record.

(3) For more detailed guidance on managing patients who experience adverse events after vaccinations, consult Clinical Guidelines for Managing Adverse Events after Vaccination, available on the Anthrax Vaccine Immunization Program (AVIP) Adverse Event Information Web site at: http://www.anthrax.osd.mil/event/default.asp or consult the cognizant Navy Environmental and Preventive Medicine Unit (NEPMU).

5. Immunization of Military Personnel

a. Initial Training. Military personnel must receive **OR HAVE PROOF OF PRIOR VACCINATION** for the following vaccinations, with the exceptions noted:

(1) Adenovirus vaccine, once available (enlisted recruits only).

(2) Hepatitis A virus (HAV) vaccine, first dose (for midshipmen, first dose before first summer assignment to operational forces, and second dose before second summer assignment).

(3) Inactivated poliovirus vaccine (IPV), one dose.

(4) Influenza vaccine, regardless of time of year.

(5) Measles, mumps, rubella vaccine, one dose (except with documentation of two doses given after the first birthday, or with serologic proof of immunity to all 3 viruses).

(6) Meningococcal vaccine, enlisted and officer accessions.

(7) Tetanus-diphtheria toxoids (Td), one dose.

(8) Varicella vaccine, two-dose primary series (except with a reliable history of varicella disease, or documentation of a two-dose series of vaccine, or serological evidence of immunity).

(9) Yellow fever vaccine, one dose (except with documentation of a dose within the last 10 years).

(10) Hepatitis B, 3-dose series, 1st two doses 4 weeks apart and third dose 5 months after the 2nd dose.

b. Timing of Immunizations. Adenovirus, meningococcal, MMR, and varicella immunizations protect against diseases that have a significant outbreak potential in high-density settings. Administer these immunizations as early as possible during new accession training.

c. Immunizing Reserve Component Personnel. Regardless of the length of time on active duty status, all members of the Navy and Marine Corps Ready Reserve must be immunized per Table 1 of reference (a). Required immunizations may be administered when the reservist is on inactive duty training (IDT), inactive duty training travel (IDTT), active duty training (ADT), annual training (AT), or active duty for special work (ADSW). Ready Reserve personnel include members of the Selected Reserve assigned to a Naval Reserve Activity and members of the Individual Ready Reserve assigned to the Active Status Pool at the Navy Reserve Personnel Center. Reserve component units and personnel must be supported by MTFs in accordance with the Naval and Marine Corps Reserve Activity-MTF Immunization Alignment Plan, per references (h) and (i). The alignment plan can be accessed from the BUMED Reserve Affairs, Force Health and Medical Readiness (M10 2) Web site: https://navymedicine.med.navy.mil/Files/Media/ecm/sitedata/93E9008D-802E-D019-ABBA0925B2764081/library/BUMED%20M10-2(Final)%206-21-04.xls.

d. Immunizations for Personnel Assigned to Navy Medical Department Mobilization Platforms. Medical Department personnel assigned to Mobile Medical Augmentation Readiness Team (MMART), Medical Augmentation Program (MAP), Fleet Hospital, or hospital ship assignments must have current immunizations (initial series and appropriate booster doses) to protect against all of the following: tetanus, diphtheria, polio, yellow fever, measles, mumps, rubella, influenza, typhoid, hepatitis A, and hepatitis B.

e. Immunizing Aviation Personnel. For information and guidance regarding immunizing aviation personnel, consult your cognizant flight surgeon or the current Aeromedical Reference and Waiver Guide, published by the Naval Operational Medical Institute (NOMI), Pensacola, Florida. Specific grounding guidance for Japanese

encephalitis virus (JEV) vaccine can be found in this notice. The Reference and Waiver Guide can be viewed on the NOMI Web site at http://www.nomi.med.navy.mil/NAMI/WaiverGuideTopics/index.htm.

6. Immunization of Non-Active Duty Beneficiaries

a. Infants and Children. Enclosure (5) is the current Recommended Childhood and Adolescent Immunization Schedule. All infants, children and adolescents should be immunized following these guidelines. Comprehensive guidance in routine immunization of infants, children and adolescents can be obtained by contacting the National Immunization Program (NIP) at: http://www.cdc.gov/nip/. Other immunizations must be provided as detailed in the discussion of specific immunizing agents below.

b. Adults. Routine immunizations that should be made available to adults include tetanus-diphtheria toxoids and influenza. Pneumococcal vaccine (PPV23) should be provided to adults over the age of 65 years, as well as those with specific risk factors, as detailed in paragraph 7l below. Other immunizations must be provided as detailed in the discussion of specific immunizing agents below and in enclosures (6) and (7).

7. Specific Immunizing Agents

a. Adenovirus Vaccine. This vaccine is currently not available. Availability is anticipated after 2006.

b. Anthrax Vaccine Adsorbed (AVA). AVA is being administered according to the Department of Defense Anthrax Vaccine Immunization Program (DOD AVIP). Current information can be found at the AVIP Web site: http://www.anthrax.osd.mil. Reference (j) implements the Navy's anthrax vaccination program.

(1) Vaccine Recipients. Selected personnel will be immunized. Consult the AVIP Web site or the nearest NEPMU for the most current guidance from DOD and Department of Navy.

(2) Dosage and Administration. The primary series consists of a total of six subcutaneous (SC) doses of 0.5 ml each. Doses are given at 0, 2, and 4 weeks, and 6, 12, and 18 months. Do not accelerate the schedule for any reason. If one dose in the series is delayed, do not restart the series. Rather, resume immunizing with the next dose in the series.

(3) Booster Dose. An annual SC booster dose of 0.5 ml is required.

c. Hepatitis A Virus Vaccine

(1) Vaccine Recipients. Vaccination against hepatitis A virus (HAV) is required for all active duty and Selected Reserve personnel.

(a) The first dose will be administered to all Navy and Marine Corps accessions, both officer and enlisted, before completion of their initial training.

(b) HAV vaccine should also be administered to family members, age 2 and older, and DOD civilian personnel who are under orders, assigned, or traveling to countries or U.S. communities with high endemicity.

(c) Certain persons in occupational settings who have increased risk of oral or other mucocutaneous contact with untreated sewage should receive HAV vaccine, including but not limited to daycare workers, food handlers, health care workers (HCWs) having contact with active cases and laboratory workers who handle live Hepatitis A. The senior occupational health physician or nurse at the cognizant medical facility will determine which personnel should be vaccinated.

(2) Dosage and Administration

(a) VAQTA (preferred because of DOD-wide pricing contract).

1. Adults (age 19 and older). 50 units/1.0 ml IM, repeated in 6 to 12 months.

2. Children (age 2 through 18). 25 units/.5ml IM, repeated in 6 to 12 months.

(b) HAVRIX

1. Adults (age 19 and older). 1440 EL.U./1.0 ml IM, repeated in 6 to 12 months.

2. Children (age 2 through 18). 360 EL.U./0.5 ml IM at 0, 1, and 6 to 12 months; or 720 EL.U./0.5 ml IM at 0 and 6 to 12 months.

(c) Interchangeability. Though not clearly indicated in the package insert for the HAV vaccine preparations, based on available data and recommendations from the Armed Forces Epidemiological Board (AFEB), the two preparations may be used interchangeably. Documentation of which preparation is given is required.

(d) Use of Immune Globulin (IG). Prior vaccination with HAV vaccine four or more weeks before exposure eliminates the need for IG to prevent hepatitis A disease. For deployment within 2 weeks, consider giving IG as well as vaccine. For further

guidance contact one of the Navy or Marine Corps preventive medicine points of contact listed in enclosure (8), or review the NEHC home page at http://www-nehc.med.navy.mil/prevmed/.

d. Hepatitis B Virus (HBV) Vaccine

(1) Vaccine recipients. The following personnel groups must receive HBV vaccine as specified below, unless previously immunized or infected, as documented by medical records or serological tests:

(a) All Medical Department personnel must be administered two doses of HBV vaccine, at least one month apart, during indoctrination training or "A" school. The third dose will be administered at their next assignment.

(b) All personnel presenting for evaluation of a possible sexually transmitted disease (STD) will receive the complete HBV vaccine series regardless of whether an STD is actually diagnosed.

(c) Both military and civilian personnel in occupational situations having an elevated risk of contact with human blood, blood products, body fluids, or tissues potentially infected with hepatitis B virus must receive HBV vaccine. These include, but are not limited to: HCWs, public safety workers, police, fire fighters, mortuary affairs, search and rescue personnel, and correctional facility staff.

(d) The senior occupational health physician or nurse at the cognizant medical facility will determine which personnel should receive hepatitis B vaccine.

(e) All children and adolescents should be immunized against hepatitis B per enclosures (5) and (7).

(f) All new active duty and reserve accessions, except for those that show serological evidence of pre-existing immunity or have a medical record of previous immunization.

(2) Dosage and Administration

(a) Normal schedule. Three IM doses at 0, 1, and 6 months.

(b) Adult dose. For age 20 and over: 10ug/1.0ml for Recombivax HB, 20ug/1.0ml for Engerix-B.

(c) Pediatric/adolescent dose. For age 19 and under: 5ug/0.5ml for Recombivax HB, 10ug/0.5ml for Engerix-B.

(d) Alternate adolescent schedule/dose. For ages 11 through 15, two doses of Recombivax-HB, 10ug/1.0ml, separated by 4 to 6 months.

(e) Interchangeability. Either HBV vaccine, Recombivax-HB or Engerix-B, may be used to complete a vaccination started with the other vaccine, unless the alternate adolescent schedule/dose for Recombivax-HB was started. This must be completed with the same product.

(3) Post-vaccination serological Testing. In accordance with CDC guidelines, post-vaccination testing of HCWs (including those listed in paragraph 7d(1)(c)) and others with elevated risk occupational exposures to blood is required to identify non-responders to hepatitis B vaccine. Quantitative post-vaccination serologic testing should be done for anti-HBs at 1 to 2 months after administering dose three. A protective antibody response is 10 or more milliinternational units (>=10mIU/mL). Immune status of these personnel must be recorded in the medical record following testing.

(a) Vaccine Non-Response in Personnel with High-Risk Occupational Exposures. Individuals who have completed the three dose HBV vaccine series and do not have protective levels of anti-HBs require careful evaluation and follow-up. The primary series should be repeated. Antibody testing should again be performed, 1 to 2 months after the last dose, to determine whether there is a protective titer. Individuals who have not responded after completing the second series should be referred to the nearest internal medicine, infectious disease, gastroenterology, or occupational medicine clinic for counseling on implications of non-response.

e. Hepatitis A/B Vaccine. A combined hepatitis A/B vaccine (Twinrix) is available for those age 18 and older. Its use is authorized when protection against both viruses is needed. The schedule is 3 IM doses at 0, 1, and 6 to 12 months.

f. Inactivated Poliovirus Vaccine (IPV)

(1) Recipients. Include all enlisted and officer accessions, all infants and children, and travelers to polio-endemic areas.

(2) Dosage and administration. Dosage is 0.5 ml subcutaneously.

(a) Single dose for accessions.

(b) Series according to enclosure (4) for infants and children.

(c) Single lifetime booster for adult travelers to endemic areas, unless known to be unvaccinated, in which case a full series should be given (0, 1-2, 6-12 months; 0, 4, 8 weeks if accelerated schedule is needed). There is no need to restart

the series if it is interrupted. If one dose is delayed, then administer that dose and administer the remaining doses with the recommended interval between the remaining doses.

g. Influenza Vaccine

(1) Recipients. Vaccine recipients include all active duty and Reserve Navy and Marine Corps personnel, HCWs, day care workers and volunteers, and teachers at DOD-sponsored schools. An annual dose should be administered as soon as the new year's vaccine becomes available. However, a dose should be administered anytime during the year if it is discovered that a person has not had the current vaccine. Non-military beneficiaries must also be offered the influenza vaccine. Orders for influenza vaccine should be based on the expected needs of all beneficiaries. A Navy-wide influenza message issued at the end of each summer provides additional guidance.

(2) Grounding Guidance for Aviation Personnel. Aviation personnel should be grounded for 12 hours after receiving the influenza vaccine.

h. Japanese Encephalitis (JEV) Vaccine

(1) Vaccine recipients. Administration of this vaccine is based on the risk of disease. Japanese encephalitis (JE) remains a significant threat to exposed personnel in the Far East and Indian subcontinent, particularly in Southeast Asia and rural Okinawa. U. S. forces are at risk primarily at night during field operations in rural areas. JE is not readily transmitted in urban areas or during daylight hours. There is little or no risk to most Navy personnel on typical port visits or to family members traveling to, or living in, urban areas. Administer the JEV vaccine primary immunization series or booster dose as needed to the following personnel:

(a) All active duty personnel, including reservists, likely to experience field living conditions in JE endemic areas as a result of scheduled transfer or deployment (such as personnel assigned to shore-based Navy or Fleet Marine Force units in the endemic region). These personnel must have the vaccine series started and should receive all three initial doses or appropriate booster prior to departure for the endemic area, if possible. If the series cannot be completed before departure, it will be completed upon arrival. However, completion prior to departure is the goal.

(b) Selected active duty personnel who may be subject to rapid, short notice deployment or transfer to field living conditions in an endemic region; primarily those assigned to special operations, Navy mobile construction battalions, and Marine expeditionary units operating in the Western Pacific. It is especially important for the entire initial series or booster to be completed before departure for certain groups who will not have ready access to shore-based MTFs upon arrival in a JE risk area. This

does not preclude deployment or transfer if specific arrangements for completion en route can be made.

(c) Medical department personnel assigned to MAP or MMART should be evaluated on a case-by-case basis in consultation with an NEPMU.

(d) Family members traveling to endemic countries on PCS orders do not need JEV prior to departure. They must be briefed upon medical check-in at the overseas MTF regarding JE disease, local JE threat, risk factors, and personal protective measures. Vaccinate only those at significant risk of disease.

(e) Most persons traveling to major urban centers of a JE-endemic area on temporary additional duty, leave, personal or professional travel, for 30 days or less, do not need vaccine. However, each traveler must be evaluated on a case-by-case basis to determine JE risk. Provide JEV and prevention education when indicated.

(2) Dosage and administration. The primary immunization series is three doses of 1.0 ml each, administered subcutaneously on days 0, 7, and 30. Personnel should be observed for 30 minutes after each dose because of the possibility of an allergic reaction. In those situations where personnel are deploying to a JE-endemic area in less than 30 days, a shortened vaccine schedule with doses on days 0, 7, and 14 may be used. The interval between vaccination and onset of allergic symptoms appears to increase with the dose number; allergic reactions can happen within 10 days of any dose. Therefore, the last dose should be administered at least 10 days prior to departing on international travel because of the possibility of these delayed allergic reactions (a reaction is possible after each dose, not just the last of the series). All recipients should be informed of this possibility.

(3) Booster Doses. A booster dose should be given to those who will be at risk if the interval from completion of the initial series or from the last booster dose is 3 years or more.

(4) Grounding Guidance for Aviation Personnel. All aviation personnel who receive JEV vaccination must be grounded for 24 hours after each dose. Individuals who have previously experienced urticaria or hypersensitivity phenomena of any type must be grounded for at least 72 hours after dose one, five days after dose two, and 72 hours after dose three.

i. Measles, Mumps and Rubella Vaccine

(1) Vaccine recipients. All active duty personnel and DOD health care providers (military or civilian), will be given one dose of MMR vaccine (0.5 ml SC) regardless of year of birth unless there is documentation of prior receipt of two doses of MMR vaccine after the first birthday or serological evidence of immunity to all three agents. Pregnant

women should not receive this live virus vaccine and all women should be advised to avoid becoming pregnant for at least 4 weeks after immunization.

(2) Concurrent Administration with tuberculosis skin test (TST). MMR vaccine may decrease the response to a TST, potentially causing a false negative response. MMR can be given the same day as a TST. However, if MMR has been given and one or more days have elapsed, wait 4 to 6 weeks before giving a routine TST. If varicella vaccine is to be administered and not given the same day, separate by 4 to 6 weeks.

(3) Shelf life after reconstitution, thawing, or opening. This vaccine has stringent shelf life requirements following reconstitution. After reconstitution, MMR vaccine should be used immediately or stored in a dark place at 2° to 8°C (35° to 46°F). Discard the vaccine if it is not used within 8 hours following reconstitution.

j. Meningococcal Vaccine (Quadravalent)

(1) Vaccine Recipients

(a) All enlisted and officer accessions.

(b) Individuals traveling or deploying to outbreak areas or the sub-Saharan Africa's "meningitis belt."

(c) Individuals entering Saudi Arabia during the Hajj.

(d) Immunocompromised adults, including those with splenic dysfunction or asplenia, Hodgkin's disease, lymphoma, multiple myeloma, chronic renal failure, nephrotic syndrome, conditions such as organ transplantation associated with immunosuppression, and HIV infection.

(2) Dosage and administration. The primary immunization is one dose, 0.5 ml SC. The booster dose is 0.5 ml SC administered 5 years after the primary vaccination or previous booster dose. Saudi Arabia requires a booster for persons entering during the Hajj if they have not received a dose in the last 3 years.

(3) Shelf life after reconstitution or opening. This vaccine has stringent shelf life requirements following reconstitution. Use single dose vials within 24 hours of reconstitution. Unused portions of multi-dose vials may be refrigerated at 2° to 8°C (35° to 46°F) and used up to 10 days after reconstitution.

k. Pneumococcal Vaccine Polyvalent (PPV23, 23-valent)

(1) Vaccine Recipients

(a) Pneumococcal polysaccharide vaccine should be administered to all adults 65 years of age and older. The vaccine is also indicated for other adults with normal immune systems who have chronic illnesses, including cardiovascular disease, pulmonary disease, diabetes, alcoholism, cirrhosis, or cerebrospinal fluid (CSF) leaks.

(b) The vaccine may be used for adults with normal immune systems who live in certain environments or social settings (e.g., some recruit populations).

(c) Immunocompromised adults who are at increased risk of pneumococcal disease or its complications should also be vaccinated. This includes those with splenic dysfunction or asplenia, Hodgkin's disease, lymphoma, multiple myeloma, chronic renal failure, nephrotic syndrome, conditions such as organ transplantation associated with immunosuppression, and HIV infection.

(d) Children 2 years of age and older with long-term illnesses that are associated with high risk of serious pneumococcal infections or its complications should be vaccinated. This includes children with asplenia, sickle cell disease, nephrotic syndrome, CSF leaks, immunosuppression, and HIV infection. If children in the above groups have already been vaccinated with conjugate pneumococcal vaccine (PCV7) prior to 2 years of age, they may receive one dose of polysaccharide vaccine at 2 years of age.

(e) The vaccine should not be administered to pregnant women unless a specific need exists based on medical conditions.

(2) Dosage and Administration. Both available vaccines, Pneumovax 23 and Pnu-Immune 23, are given as a single 0.5 ml dose, either IM or SC. Booster may be provided 5 years after the most recent dose; refer to ACIP guidelines or package insert for specific recommendations.

I. Pneumococcal Conjugate Vaccine (PCV7, 7-valent)

(1) Vaccine Recipients

(a) All children 23 months of age or younger.

(b) Children aged 24-59 months with sickle cell hemoglobinopathies, asplenia or splenic dysfunction, HIV infection, certain immunocompromising conditions, and certain chronic illnesses (ACIP recommendations listed in enclosure (1)). Children with one of the above conditions who are less than 5 years of age and have previously received the polysaccharide pneumococcal vaccine may also receive the conjugate vaccine.

(c) Consider using PCV7 in other children aged 24-59 months, according to the ACIP recommendations.

(2) Dosage and Administration. Give 0.5 ml IM doses:

(a) For children aged 2-6 months at first dose, give 3 doses, 2 months apart, followed by another dose at 12-15 months.

(b) For children aged 7-11 months at first dose, give 2 doses, 2 months apart, followed by another dose at 12-15 months.

(c) For children aged 12-23 months at first dose, give 2 doses, 2 months apart.

(d) For children aged 24-59 months at first dose, give 1 dose for healthy children and 2 doses, 2 months apart, for children at high risk for pneumococcal infection (see I(1)(b) above).

m. Rabies Vaccine

(1) Vaccine Recipients. References (a) and (k) provide guidance on pre-exposure administration of rabies vaccine.

(2) Dosage and Administration. Reference (k) provides specific guidance on the post-exposure administration of rabies vaccine. Rabies vaccine should be administered simultaneously with human rabies immune globulin (HRIG), except as noted in the ACIP guidelines. Treatment facilities that may have to administer post-exposure prophylaxis should have the ACIP Guidelines for Rabies Prevention readily available.

n. Smallpox Vaccine. The Food and Drug Administration (FDA) approved smallpox vaccine in September 2002. The President announced a national program for vaccination of selected personnel. DOD's Smallpox Vaccination Program (SVP) began in December 2002.

(1) The following messages apply:

(a) MARADMIN 081821Z Jan 03, AUTHORIZATION TO BEGIN SMALLPOX VACCINATION PROGRAM (SVP).

(b) NAVADMIN 092315Z Jan 03, SMALLPOX VACCINATION PROGRAM (SVP) IMPLEMENTATION GUIDANCE.

(c) CNO WASHINGTON DC 091532Z Jan 03, SMALLPOX VACCINATION PROGRAM (SVP) FOR MILITARY TREATMENT FACILITIES.

(d) CNO WASHINGTON DC 101615Z Jan 03, SMALLPOX VACCINATION PROGRAM (SVP) MEDICAL GUIDANCE.

(e) CNO WASHINGTON DC 231314Z Jan 03, REVISED HIV TESTING REQUIREMENT FOR SMALLPOX VACCINATION PROGRAM (SVP).

(f) CNO WASHINGOTN DC 242154Z Mar 03, UPDATED MEDICAL GUIDANCE FOR SMALLPOX PROGRAMS.

(g) CNO WASHINGTON DC 131726Z Mar 03, SMALLPOX VACCINATION PROGRAM (SVP) AUTHORIZATION TO VACCINATE NAVY EMERGENCY ESSENTIAL CIVILIAN AND MISSION CRITICAL CONTRACTOR PERSONNEL.

(2) The following Web sites provide links to the above messages and additional information resources for SVP:

(a) DOD Smallpox Vaccination Program site, http://www.smallpox.army.mil.

(b) NEHC smallpox site, http://www-nehc.med.navy.mil/prevmed/epi/Smallpox.htm.

(c) CDC smallpox site, http://www.bt.cdc.gov/agent/smallpox/index.asp

o. Tetanus-diphtheria

(1) Vaccine Recipients. All adults should be immunized against tetanus and diphtheria, using Td, per ACIP guidelines.

(2) Dosage and Administration. Give 0.5ml IM. Individuals previously vaccinated with Td should receive a booster dose once every ten years. If an individual sustains a wound considered tetanus-prone, a booster dose of Td should be administered if the last booster was more than 5 years in the past.

p. Typhoid Vaccine

(1) Vaccine Recipients

(a) Military personnel in receipt of orders to a deployable unit, or a unit located outside of the United States.

(b) All personnel and accompanying beneficiaries traveling under orders to highly endemic areas, as defined by the cognizant NEPMU, who do not have a current vaccination against typhoid.

(2) Dosage and administration

(a) The oral, live-attenuated typhoid vaccine (Ty21a) offers greater duration of immunity (5 years). The series consists of one capsule taken by mouth, with a cool beverage, an hour or more before a meal, on days 1, 3, 5, and 7. An alternative schedule for administration on days 1, 3, 5, and 8 (i.e., Monday, Wednesday, Friday, and the following Monday), is acceptable. The series should be repeated every 5 years. This vaccine should not be given to immunocompromised adults. For use during pregnancy, see ACIP recommendations.

(b) The modified acellular, parenteral, typhoid vaccine (TYPHIM Vi) provides a much shorter duration of immunity (2 years). The dose for this vaccine is 0.5 ml administered IM every 2 years.

(3) Re-immunization. Either vaccine can be used, regardless of type of vaccine used initially.

q. Varicella (Chickenpox) Virus Vaccine (VARIVAX)

(1) Vaccine Recipients

(a) Susceptible Navy and Marine Corps recruits and officer accessions should be immunized with the two-dose vaccine series. It is unnecessary to immunize those with a reliable history of varicella, a documented two-dose series of varicella vaccine, or serological evidence of immunity.

(b) All susceptible Naval Academy plebes and first year NROTC Midshipmen should be immunized before the fall semester.

(c) Children should be immunized at 12 to 18 months of age. Unimmunized children lacking a reliable history of varicella should be vaccinated.

(d) Susceptible DOD schoolteachers, health care, and childcare workers should be immunized.

(e) Susceptible adolescents and adults living or working closely with immunocompromised individuals should be immunized.

(f) Women of childbearing age should be immunized. Vaccinating non-pregnant women who may later become pregnant will reduce their risk of transmitting varicella to their fetuses. Do not vaccinate during pregnancy. Women should be asked whether they are pregnant and advised to avoid pregnancy for three months following each dose of vaccine.

(g) Susceptible international travelers, especially if the traveler expects to have close contact with local populations, should be immunized, since varicella is endemic in most countries.

(2) Dosage and Administration. A single dose of 0.5 ml SC is required for children between 12 months and 13 years of age. Persons 13 years of age and older must receive a two-dose series. This consists of one 0.5 ml dose SC followed by a second 0.5 ml dose SC given 4 to 8 weeks after the first dose. Booster doses are not required.

(3) Rash Development After Vaccination. A few individuals may develop a post-vaccination chickenpox-like rash. These persons should avoid close/household contact with pregnant or immunocompromised individuals until the rash resolves, as the disease may be transmitted during this stage. Health care providers may contact their cognizant NEPMU for additional guidance.

(4) Use of Salicylates. No adverse events associated with the use of salicylates after varicella vaccination have been reported. However, the manufacturer recommends recipients avoid using salicylates for 6 weeks after vaccination because of an association between aspirin use and Reye's syndrome following varicella.

(5) Storage requirements. This vaccine has stringent storage requirements and must be stored frozen. Refrigerated storage facilities must be capable of sustaining temperatures of -15°C (5° F) or colder. The manufacturer recommends using a frost-free refrigerator with a separate, insulated freezer. Reconstitution to room temperature must be done within 30 minutes.

(6) If varicella and MMR are both needed and not administered the same day, space them at least 4 weeks apart.

r. Yellow Fever

(1) Vaccine Recipients

(a) All active duty military personnel.

(b) All personnel and accompanying beneficiaries over 9 months of age traveling under orders to infected areas, as listed in the bi-Weekly Summary of Health

Information for International Travel. For pregnant women and infants under 9 months of age, see ACIP recommendations on yellow fever vaccine.

(2) Dosage and Administration. A single subcutaneous dose of 0.5 ml of this live virus vaccine is required for all ages. Booster doses are required every 10 years.

(3) Storage and Use Requirements. This vaccine has stringent storage requirements and must be stored at temperatures from 0° to 5° C (32° to 41° F). Multiple-dose vials of reconstituted vaccine must be used within 1 hour of reconstitution.

(4) Altered immune states. Infection with yellow fever vaccine virus poses a theoretical risk of encephalitis to patients with immunosuppression in association with acquired immunodeficiency syndrome (AIDS) or other manifestations of HIV infection, leukemia, lymphoma, generalized malignancy, or to those whose immunologic responses are suppressed by corticosteroids, alkylating drugs, antimetabolites, or radiation. Such patients should not be given yellow fever vaccine.

8. Additional Vaccine Receiving, Storage and Handling Recommendations

a. Receiving. Many vaccines have stringent temperature requirements for maintaining potency. Commands should ensure that local procedures for receipt of vaccine shipments guarantee that appropriate personnel are available to receive and store them properly. Coordination with the local pharmacy is encouraged to ensure proper vaccine management during the receiving and storage periods.

b. Refrigerated Storage Units. Only household, commercial, or industrial type refrigerator-freezers with a separately insulated and temperature controlled freezer compartment, or stand-alone freezers are acceptable for routine storage of immunobiologicals. Small, dormitory style, combination refrigerator-freezers are not acceptable for storing immunobiologicals. Automated back-up power systems may be necessary to maintain cold chain integrity. Some "Frost-Free" freezers may cycle to unacceptably high temperatures as part of their normal operation to stay free of frost build-up and therefore may not be acceptable for storing immunobiologicals that require storage at constant low temperatures.

c. Temperature checks. Check and record the refrigerator and freezer temperatures twice daily, 7 days a week, to determine that correct temperatures are maintained. Commands and units must establish procedures for notifying designated personnel when electrical power is lost or temperatures exceed maximum/minimum levels. Automated temperature alarms and recording devices may be necessary to provide continuous integrity of immunobiologicals. Both the refrigerator and freezer compartments should be equipped with a bi-metallic thermometer (either NSN 6685-641-0189 or 6685-585-5761). Mercury thermometers are prohibited.

d. Warning signs. Post warning signs on electrical outlets, and on corresponding electrical panels, to notify electricians and others to warn cognizant medical, or supply personnel before unplugging or securing power to vaccine refrigeration units.

e. Stock rotation. Rotate stock to avoid outdating. Note the expiration dates on vials or cartons and use the vaccines with the earliest expiration date first.

f. Information. The January 2001 CDC publication "Vaccine Management - Recommendations for Handling and Storage of Selected Biologicals", available at http://www.cdc.gov/nip/publications/vac_mgt_book.pdf provides templates for refrigeration logs, warning plates, general vaccine handling rules, and additional advice on storing immunobiologicals.

9. Training. The following training resources are recommended:

a. CDC satellite immunization courses. These include Epidemiology and Prevention of Vaccine Preventable Diseases, Immunization Update, and Vaccines for International Travelers. Continuing medical education (CME) units and continuing education units (CEUs) are awarded by CDC for successful completion. Contact the NEHC distance learning coordinator at e-mail canalsd@nehc.med.navy.mil, commercial (757) 953-0964 or DSN 377-0964 for additional information and course schedules, or consult the CDC Public Health Training Network Web site at http://www.phppo.cdc.gov/phtn/default.asp.

b. NEPMU course entitled "Immunizations and Prophylaxis", CANTRAC course number B-322-2203. Contact your cognizant NEPMU for course dates and quota control. See enclosure (8).

c. The Naval School of Health Sciences, Portsmouth immunization correspondence course. Contact the Correspondence Course Program Manager at commercial (757) 953-7627, DSN 377-7627 or e-mail medcorrespondence@hsp.med.navy.mil.

d. The CDC and National Immunization Program Publications and Resources Request List contains a listing of helpful publications, materials, and video tapes, including the free CDC vaccine handling videotape "Ice, Champagne and Roses." These items can be obtained from the NEHC Web site at: http://www.cdc.gov/nip/publications/default.htm, from Information and Distribution Center, National Immunization Program, Mail Stop E-34, Centers for Disease Control and Prevention, 1600 Clifton Road NE, Atlanta, GA 30333, or by calling (800) 232-2522.

e. Additional resources for civilian immunization information are provided in enclosure (9).

f. Enclosure (10) is a glossary of terms, abbreviations, and acronyms used in this notice.

10. Action. Effective immediately NAVMED 6230/4 (1-2004), Adult Immunizations Record, and NAVMED 6230/5 (1-2004), Child Immunizations Record shall be used in lieu of the SF 601, Immunization Record and Section 9 of the DD 2766, Adult Preventive and Chronic Care Flowsheet for documenting immunizations.

11. Forms

a. NAVMED 6230/4 (1-2004), Adult Immunizations Record is available at the "Forms" tab via the Bureau of Medicine and Surgery Web site at http://navymedicine.med.navy.mil/default.cfm?seltab=directives and is approved for local reproduction.

b. NAVMED 6230/5 (1-2004), Child Immunizations Record is available at the "Forms" tab via the Bureau of Medicine and Surgery Web site at http://navymedicine.med.navy.mil/default.cfm?seltab=directives and is approved for local reproduction.

c. PHS 731 (9-71), International Certificate of Vaccination (Yellow Card), S/N 0108-LF-400-0706 is available from the Federal Supply System through normal procurement procedures.

d. SF 600 overprint, SVP Overprint (04-03) is available at: http://www.smallpox.army.mil/MEDIA/PDF/VACCINIAINITIAL.PDF.

e. Vaccine Adverse Event Reporting System Form VAERS-1(FDA) is available at http://www.vaers.org/pdf/vaers_form.pdf and is approved for local reproduction.

12. Cancellation Contingency. Retain until incorporated into reference (a) and chapter 16 of the Manual of the Medical Department.

K. L. MARTIN
Vice Chief

Distribution is electronic only via the Navy Medicine Web Site at:
http://navymedicine.med.navy.mil/default.cfm?seltab=directives

INDEX OF CURRENT RECOMMENDATIONS OF THE ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES (ACIP)

ACIP Recommendations are available at http://www.cdc.gov/_nip/publications/ACIP-list.htm, or from the regional NAVEN-PVNTMEDU listed in enclosure (7). Current Recommendations, as of 1 March 2004, by key word or title, and citation follow:

Adolescents. Immunization of adolescents. MMWR 1996;45(RR-13):1-16.

Adult. Update on Adult Immunization. MMWR 1991;40(RR-12):1-94.

Anthrax. Use of Anthrax Vaccine in the United States. MMWR 2000;49(RR-15):1-22.

BCG. The Role of BCG Vaccine in the Prevention and Control of Tuberculosis in the United States. MMWR 1996;45(RR-4):1-18.

Childhood Combination Vaccines for Immunization. MMWR 1999; 48(RR-05); 1-15.

Diphtheria, Tetanus, and Pertussis. Use of Diphtheria Toxoid-Tetanus Toxoid-Acellular Pertussis Vaccine as a Five-Dose Series. MMWR 2000;49(RR-13):1-8.

Diphtheria, Tetanus, and Pertussis: Recommendations for Vaccine Use and Other Preventive Measures. MMWR 1991;40(RR-10):1-28.

General Recommendations on Immunization. MMWR 2002;51(RR-02); 1-36.

Haemophilus. Recommendations for Use of Haemophilus b Conjugate Vaccines and a Combined Diphtheria, Tetanus, Pertussis, and Haemophilus b Vaccine. MMWR 1993;42(RR-13):1-15.

Haemophilus b Conjugate Vaccines for Prevention of Haemophilus influenzae Type b Disease Among Infants and Children Two Months of Age and Older. MMWR 1991;40(RR-1):1-7.

Health care workers. Immunization of Health-Care Workers. MMWR 1997;46(RR-18):1-44.

Hepatitis. Protection Against Viral Hepatitis. MMWR 1990;39 (RR-2):1-26.

Hepatitis A. Prevention of Hepatitis A Through Active or Passive Immunization. MMWR 1999;48(RR-12):1-37.

Hepatitis B virus: A Comprehensive Strategy for Eliminating Transmission in the United States Through Universal Childhood Vaccination. MMWR 1991;40(RR-13):1-19.

Immunocompetence, altered. Use of Vaccines and Immune Globulins in Persons with Altered Immunocompetence. MMWR 1993;42(RR-4):1-18.

Influenza. Using Live, Attenuated Influenza Vaccine for Prevention and Control of Influenza. MMWR 2003;52(RR-13):1-8.

Influenza. Prevention and Control of Influenza. MMWR 2003; 52(RR-08):1-36.

Japanese encephalitis. Inactivated Japanese encephalitis virus vaccine. MMWR 1993;42(RR-1):1-15.

Lyme. Recommendations for the Use of Lyme Disease Vaccine. MMWR 1999;48(RR-7):1-17.

Measles, Mumps, and Rubella - Vaccine Use and Strategies for Elimination of Measles, Rubella, and Congenital Rubella Syndrome and Control of Mumps. MMWR 1998;47(RR-8):1-58.

Meningococcal. Prevention and Control of Meningococcal Disease and Meningococcal Disease and College Students. MMWR 2000; 49(RR-7):1-22.

Meningococcal. Control and Prevention of Meningococcal Disease and Control and Prevention of Serogroup C Meningococcal Disease: Evaluation and Management of Suspected Outbreaks. MMWR 1997; 46(RR-5):1-7.

Pertussis Vaccination: Use of Acellular Pertussis Vaccines Among Infants and Young Children. MMWR 1997;46(RR-7):1-25.

Plague. Prevention of plague. MMWR 1996;45(RR- 14):1-15.

Pneumococcal. Preventing Pneumococcal Disease Among Infants and Young Children. MMWR 2000;49(RR-9):1-38.

Pneumococcal. Prevention of Pneumococcal Disease. MMWR 1997;46 (RR-8):1-24.

Poliomyelitis Prevention in the United states. MMWR 2000;49(RR-5):1-22.

Rabies Prevention - United States, 1999. MMWR 1999;48(RR-1):1-21.

Typhoid Immunization. MMWR 1994;43(RR-14):1-7.

Vaccinia (Smallpox) Vaccine Recommendations. 2001 MMWR; 50(RR-10);1-25.

Vaccine Side Effects, Adverse Reactions, Contraindications, and Precautions. MMWR 1996;45(RR-12)1-35.

Varicella. Prevention of Varicella. MMWR 1996;45(RR-11):1-36.

Varicella. Prevention of Varicella. MMWR 1999;48(RR-6):1-5. [update]

Yellow Fever Vaccine. MMWR 2002;51(RR-17):1-10.

GUIDELINES FOR TIMING AND SPACING OF IMMUNOBIOLOGICS (adapted from ACIP General Recommendations on Immunization, MMWR 2002;51(RR-2))

Guidelines for spacing of live and inactivated antigens

Antigen combination	Recommended minimum interval between doses
≥2 Inactivated (Note 1)	None; can be administered simultaneously or at any interval between doses
Inactivated and Live (Note 1)	None; can be administered simultaneously or at any interval between doses
≥2 live antigens (Note 2,3,4,5, & 6)	Four-week minimum interval, if not administered simultaneously

Note 1: An inactivated vaccine can be administered either simultaneously or at any time before or after a different inactivated vaccine or live vaccine.

Note 2: Parenterally administered live vaccines not administered on the same day should be administered ≥4 weeks apart whenever possible.

Note 3: The immune response to one live-virus vaccine might be impaired if administered within 30 days of another live-virus vaccine.

Note 4: Live oral vaccines (e.g., Ty21a typhoid vaccine, oral polio vaccine) can be administered simultaneously or at any interval before or after inactivated or live parenteral vaccines.

Note 5: If parenterally administered live vaccines are separated by <4 weeks, the vaccine administered second should not be counted as a valid dose and should be repeated. The repeat dose should be administered ≥4 weeks after the last, invalid dose.

Note 6: Yellow fever vaccine can be administered any time after single-antigen measles vaccine. Ty21a Typhoid vaccine and parenteral live vaccines (i.e., MMR, varicella, yellow fever) can be administered simultaneously or at any interval before or after each other, if indicated.

GUIDELINES FOR ADMINISTERING ANTIBODY-CONTAINING PRODUCTS (NOTE 1) AND VACCINES

Simultaneous administration

Combination	Recommended minimum interval between doses
Antibody-containing products and inactivated antigen	None; can be administered simultaneously at different sites or at any time between doses
Antibody-containing products and live antigen	Should not be administered simultaneously (Note 2). If simultaneous administration of measles-containing vaccine or varicella vaccine is unavoidable, administer at different sites and revaccinate or test for seroconversion after the recommended interval.

Non-simultaneous administration

Product administered		Recommended minimum interval between doses
First	Second	
Antibody-containing	Inactivated antigen	None
Inactivated antigen	Antibody-containing	None
Antibody-containing	Live antigen	Dose related (Note: 2 & 3)
Live antigen	Antibody-containing	2 weeks

Note 1: Blood products containing substantial amounts of immunoglobulin, including intramuscular and intravenous immune globulin, specific hyperimmune globulin (e.g., hepatitis B immune globulin, tetanus immune globulin, varicella zoster immune globulin, and rabies immune globulin), whole blood, packed red cells, plasma, and platelet products.

Note 2: Yellow fever and oral Ty21a typhoid vaccines are exceptions to these recommendations. These live attenuated vaccines can be administered at any time before, after, or simultaneously with an antibody-containing product without substantially decreasing the antibody response.

Note 3: The duration of interference of antibody-containing products with the immune response to the measles component of the measles-containing vaccine, and possibly varicella vaccine is dose-related. The suggested interval before measles vaccination is a minimum of three months.

Adapted from NATIONAL VACCINE INJURY COMPENSATION PROGRAM VACCINE INJURY TABLE Effective August 26, 2002

Vaccine	Adverse Event	Time Interval
I. Tetanus toxoid-containing vaccines (e.g., DTaP, DTP-Hib, DT; Td, or TT)	A. Anaphylaxis or anaphylactic shock (Note 1)	0-4 hours
	B. Brachial neuritis (Note 6)	2-28 days
	C. Any acute complication or sequela (including death) of above events (Note 4)	Not applicable
II. Pertussis antigen-containing vaccines (e.g., DTaP, DTP, P, DTP-Hib)	A. Anaphylaxis or anaphylactic shock (Note 1)	0-4 hours
	B. Encephalopathy (or encephalitis) (Note 2)	0-72 hours
	C. Any acute complication or sequela (including death) of above events (Note 4)	Not applicable
III. Measles, mumps and rubella virus-containing vaccines in any combination (e.g., MMR, MR, M, R)	A. Anaphylaxis or anaphylactic shock (Note 1)	0-4 hours
	B. Encephalopathy (or encephalitis) (Note 2)	5-15 days
	C. Any acute complication or sequela (including death) of above events (Note 4)	Not applicable
IV. Rubella virus-containing vaccines (e.g., MMR, MR, R)	A. Chronic arthritis (Note 5)	7-42 days
	B. Any acute complication or sequela (including death) of above event (Note 4)	Not applicable
V. Measles virus-containing vaccines (e.g., MMR, MR, M)	A. Thrombocytopenic purpura (Note 7)	7-30 days
	B. Vaccine-Strain Measles Viral Infection in an immunodeficient recipient (Note 8)	0-6 months
	C. Any acute complication or sequela (including death) of above events (Note 4)	Not applicable
VI. Polio live virus-containing vaccines (OPV)	A. Paralytic polio	
	— in a non-immunodeficient recipient	0-30 days
	— in an immunodeficient recipient	0-6 months
	— in a vaccine-associated community case	Not applicable
	B. Vaccine-strain polio viral infection 9	
	— in a non-immunodeficient recipient	0-30 days
	— in an immunodeficient recipient	0-6 months
	— in a vaccine-associated community case	Not applicable
	C. Any acute complication or sequela (including death) of above events (Note 4)	Not applicable
VII. Polio inactivated-virus containing vaccines (e.g., IPV)	A. Anaphylaxis or anaphylactic shock (Note 1)	0-4 hours
	B. Any acute complication or sequela (including death) of above event (Note 4)	Not applicable
VIII. Hepatitis B antigen-containing vaccines	A. Anaphylaxis or anaphylactic shock (Note 1)	0-4 hours
	B. Any acute complication or sequela (including death) of above event (Note 4)	Not applicable

IX. Hemophilus influenzae type b polysaccharide conjugate vaccines	A. No condition specified for compensation	Not applicable
X. Varicella vaccine	A. No condition specified for compensation	Not applicable
XI. Pneumococcal conjugate vaccines	A. No condition specified for compensation	Not applicable
XII. Any new vaccine recommended by the Centers for Disease Control and Prevention for routine administration to children, after publication by Secretary, HHS of a notice of coverage	A. No condition specified for compensation	Not applicable

Notes: Qualifications and Aids to Interpretation

(1) Anaphylaxis and anaphylactic shock mean an acute, severe, and potentially lethal systemic allergic reaction. Most cases resolve without sequelae. Signs and symptoms begin minutes to a few hours after exposure. Death, if it occurs, usually results from airway obstruction caused by laryngeal edema or bronchospasm and may be associated with cardiovascular collapse. Other significant clinical signs and symptoms may include the following: Cyanosis, hypotension, bradycardia, tachycardia, arrhythmia, edema of the pharynx and/or trachea and/or larynx with stridor and dyspnea. Autopsy findings may include acute emphysema which results from lower respiratory tract obstruction, edema of the hypopharynx, epiglottis, larynx, or trachea and minimal findings of eosinophilia in the liver, spleen and lungs. When death occurs within minutes of exposure and without signs of respiratory distress, there may not be significant pathologic findings.

(2) Encephalopathy. For purposes of the Vaccine Injury Table, a vaccine recipient shall be considered to have suffered an encephalopathy only if such recipient manifests, within the applicable period, an injury meeting the description below of an acute encephalopathy, and then a chronic encephalopathy persists in such person for more than 6 months beyond the date of vaccination.

(i) An acute encephalopathy is one that is sufficiently severe so as to require hospitalization (whether or not hospitalization occurred).

(A) For children less than 18 months of age who present without an associated seizure event, an acute encephalopathy is indicated by a "significantly decreased level of consciousness" (see (D) below) lasting for at least 24 hours. Those children less than 18 months of age who present following a seizure shall be viewed as having an acute encephalopathy if their significantly decreased level of consciousness persists beyond 24 hours and cannot be attributed to a postictal state (seizure) or medication.

(B) For adults and children 18 months of age or older, an acute encephalopathy is one that persists for at least 24 hours and characterized by at least two of the following:

(1) A significant change in mental status that is not medication related; specifically a confusional state, or a delirium, or a psychosis;

(2) A significantly decreased level of consciousness, which is independent of a seizure and cannot be attributed to the effects of medication; and

(3) A seizure associated with loss of consciousness.

(C) Increased intracranial pressure may be a clinical feature of acute encephalopathy in any age group.

(D) A "significantly decreased level of consciousness" is indicated by the presence of at least one of the following clinical signs for at least 24 hours or greater (see paragraphs (2)(i)(A) and (2)(i)(B) of this section for applicable timeframes):

(1) Decreased or absent response to environment (responds, if at all, only to loud voice or painful stimuli);

(2) Decreased or absent eye contact (does not fix gaze upon family members or other individuals); or

(3) Inconsistent or absent responses to external stimuli (does not recognize familiar people or things).

(E) The following clinical features alone, or in combination, do not demonstrate an acute encephalopathy or a significant change in either mental status or level of consciousness as described above: Sleepiness, irritability (fussiness), high-pitched and unusual screaming, persistent inconsolable crying, and bulging fontanelle. Seizures in themselves are not sufficient to constitute a diagnosis of encephalopathy. In the absence of other evidence of an acute encephalopathy, seizures shall not be viewed as the first symptom or manifestation of the onset of an acute encephalopathy.

(ii) Chronic encephalopathy occurs when a change in mental or neurologic status, first manifested during the applicable time period, persists for a period of at least 6 months from the date of vaccination. Individuals who return to a normal neurologic state after the acute encephalopathy shall not be presumed to have suffered residual neurologic damage from that event; any subsequent chronic encephalopathy shall not be presumed to be a sequela of the acute encephalopathy. If a preponderance of the evidence indicates that a child's chronic encephalopathy is secondary to genetic, prenatal or perinatal factors, that chronic encephalopathy shall not be considered to be a condition set forth in the Table.

(iii) An encephalopathy shall not be considered to be a condition set forth in the Table if in a proceeding on a petition, it is shown by a preponderance of the evidence that the encephalopathy was caused by an infection, a toxin, a metabolic disturbance, a structural lesion, a genetic disorder or trauma (without regard to whether the cause of the infection, toxin, trauma, metabolic disturbance, structural lesion or genetic disorder is known). If at the time a decision is made on a petition filed under section 2111(b) of the Act for a vaccine-related injury or death, it is not possible to determine the cause by a preponderance of the evidence of an encephalopathy, the encephalopathy shall be considered to be a condition set forth in the Table.

(iv) In determining whether or not an encephalopathy is a condition set forth in the Table, the Court shall consider the entire medical record.

(3) Seizure and convulsion. For purposes of paragraphs (2) of this section, the terms, "seizure" and "convulsion" include myoclonic, generalized tonic-clonic (grand mal), and simple and complex partial seizures. Absence (petit mal) seizures shall not be considered to be a condition set forth in the Table. Jerking movements or staring episodes alone are not necessarily an indication of seizure activity.

(4) Sequela. The term "sequela" means a condition or event that was actually caused by a condition listed in the Vaccine Injury Table.

(5) Chronic Arthritis. For purposes of the Vaccine Injury Table, chronic arthritis may be found in a person with no history in the 3 years prior to vaccination of arthropathy (joint disease) on the basis of:

(i) Medical documentation, recorded within 30 days after the onset, of objective signs of acute arthritis (joint swelling) that occurred between 7 and 42 days after a rubella vaccination;

(ii) Medical documentation (recorded within 3 years after the onset of acute arthritis) of the persistence of objective signs of intermittent or continuous arthritis for more than 6 months following vaccination;

(iii) Medical documentation of an antibody response to the rubella virus.

For purposes of the Vaccine Injury Table, the following shall not be considered as chronic arthritis: Musculoskeletal disorders such as diffuse connective tissue diseases (including but not limited to rheumatoid arthritis, juvenile rheumatoid arthritis, systemic lupus erythematosus, systemic sclerosis, mixed connective tissue disease, polymyositis/dermatomyositis, fibromyalgia, necrotizing vasculitis and vasculopathies and Sjogren's Syndrome), degenerative joint disease, infectious agents other than rubella (whether by direct invasion or as an immune reaction), metabolic and endocrine diseases, trauma, neoplasms, neuropathic disorders, bone and cartilage disorders and arthritis associated with ankylosing spondylitis, psoriasis, inflammatory bowel disease, Reiter's syndrome, or blood disorders.

Arthralgia (joint pain) or stiffness without joint swelling shall not be viewed as chronic arthritis for purposes of the Vaccine Injury Table.

(6) Brachial neuritis is defined as dysfunction limited to the upper extremity nerve plexus (i.e., its trunks, divisions, or cords) without involvement of other peripheral (e.g., nerve roots or a single peripheral nerve) or central (e.g., spinal cord) nervous system structures. A deep, steady, often severe aching pain in the shoulder and upper arm usually heralds onset of the condition. The pain is followed in days or weeks by weakness and atrophy in upper extremity muscle groups. Sensory loss may accompany the motor deficits, but is generally a less notable clinical feature. The neuritis, or plexopathy, may be present on the same side as or the opposite side of the injection; it is sometimes bilateral, affecting both upper extremities. Weakness is required before the diagnosis can be made. Motor, sensory, and reflex findings on physical examination and the results of nerve conduction and electromyographic studies must be consistent in confirming that dysfunction is attributable to the brachial plexus. The condition should thereby be distinguishable from conditions that may give rise to dysfunction of nerve roots (i.e., radiculopathies) and peripheral nerves (i.e., including multiple mononeuropathies), as well as other peripheral and central nervous system structures (e.g., cranial neuropathies and myelopathies).

(7) Thrombocytopenic purpura is defined by a serum platelet count less than 50,000/mm^3. Thrombocytopenic purpura does not include cases of thrombocytopenia associated with other causes such as hypersplenism, autoimmune disorders (including alloantibodies from previous transfusions) myelodysplasias, lymphoproliferative disorders, congenital thrombocytopenia or hemolytic uremic syndrome. This does not include cases of immune (formerly called idiopathic) thrombocytopenic purpura (ITP) that are mediated, for example, by viral or fungal infections, toxins or drugs.

Thrombocytopenic purpura does not include cases of thrombocytopenia associated with disseminated intravascular coagulation, as observed with bacterial and viral infections. Viral infections include, for example, those infections secondary to Epstein Barr virus, cytomegalovirus, hepatitis A and B, rhinovirus, human immunodeficiency virus (HIV), adenovirus, and dengue virus. An antecedent viral infection may be demonstrated by clinical signs and symptoms and need not be confirmed by culture or serologic testing. Bone marrow examination, if performed, must reveal a normal or an increased number of megakaryocytes in an otherwise normal marrow.

(8) Vaccine-strain measles viral infection is defined as a disease caused by the vaccine-strain that should be determined by vaccine-specific monoclonal antibody or polymerase chain reaction tests.

(9) Vaccine-strain polio viral infection is defined as a disease caused by poliovirus that is isolated from the affected tissue and should be determined to be the vaccine-strain by oligonucleotide or polymerase chain reaction. Isolation of poliovirus from the stool is not sufficient to establish a tissue specific infection or disease caused by vaccine-strain poliovirus.

For additional information call The Health Resources and Services Administration, U.S. Department of Health and Human Services, public information line at 1-800-338-2382.

Health Resources and Services Administration
U.S. Department of Health and Human Services
Parklawn Building
5600 Fishers Lane
Rockville, Maryland 20857

BUMEDNOTE 6230
21 Dec 2004

WEBSITE: www.vaers.org E-MAIL: info@vaers.org FAX: 1-877-721-0366

VACCINE ADVERSE EVENT REPORTING SYSTEM

VAERS

24 Hour Toll-Free Information 1-800-822-7967
P.O. Box 1100, Rockville, MD 20849-1100
PATIENT IDENTITY KEPT CONFIDENTIAL

For CDC/FDA Use Only
VAERS Number _____
Date Received _____

Patient Name:
Last First M.I.
Address
City State Zip
Telephone no. (___) _____

Vaccine administered by (Name):
Responsible Physician _____
Facility Name/Address
City State Zip
Telephone no. (___) _____

Form completed by (Name):
Relation to Patient ☐ Vaccine Provider ☐ Patient/Parent ☐ Manufacturer ☐ Other
Address *(if different from patient or provider)*
City State Zip
Telephone no. (___) _____

1. State | 2. County where administered | 3. Date of birth mm dd yy | 4. Patient age | 5. Sex ☐M ☐F | 6. Date form completed mm dd yy

7. Describe adverse events(s) (symptoms, signs, time course) and treatment, if any

8. Check all appropriate:
☐ Patient died (date mm dd yy)
☐ Life threatening illness
☐ Required emergency room/doctor visit
☐ Required hospitalization (_____days)
☐ Resulted in prolongation of hospitalization
☐ Resulted in permanent disability
☐ None of the above

9. Patient recovered ☐YES ☐NO ☐UNKNOWN

10. Date of vaccination mm dd yy Time _____ AM PM

11. Adverse event onset mm dd yy Time _____ AM PM

12. Relevant diagnostic tests/laboratory data

13. Enter all vaccines given on date listed in no. 10

	Vaccine (type)	Manufacturer	Lot number	Route/Site	No. Previous Doses
a.					
b.					
c.					
d.					

14. Any other vaccinations within 4 weeks prior to the date listed in no. 10

	Vaccine (type)	Manufacturer	Lot number	Route/Site	No. Previous doses	Date given
a.						
b.						

15. Vaccinated at:
☐ Private doctor's office/hospital ☐ Military clinic/hospital
☐ Public health clinic/hospital ☐ Other/unknown

16. Vaccine purchased with:
☐ Private funds ☐ Military funds
☐ Public funds ☐ Other/unknown

17. Other medications

18. Illness at time of vaccination (specify)

19. Pre-existing physician-diagnosed allergies, birth defects, medical conditions (specify)

20. Have you reported this adverse event previously? ☐ No ☐ To health department ☐ To doctor ☐ To manufacturer

Only for children 5 and under

22. *Birth weight* _____ lb. _____ oz.

23. *No. of brothers and sisters*

21. Adverse event following prior vaccination (check all applicable, specify)

	Adverse Event	Onset Age	Type Vaccine	Dose no. in series
☐ In patient				
☐ In brother or sister				

Only for reports submitted by manufacturer/immunization project

24. *Mfr./imm. proj. report no.*

25. *Date received by mfr./imm.proj.*

26. *15 day report?* ☐ Yes ☐ No

27. *Report type* ☐ Initial ☐ Follow-Up

Health care providers and manufacturers are required by law (42 USC 300aa-25) to report reactions to vaccines listed in the Table of Reportable Events Following Immunization. Reports for reactions to other vaccines are voluntary except when required as a condition of immunization grant awards.

Form VAERS-1(FDA)

Enclosure (4)

"Fold in thirds, tape & mail — DO NOT STAPLE FORM"

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES OR APO/FPO

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 1895 ROCKVILLE, MD

POSTAGE WILL BE PAID BY ADDRESSEE

VAERS
P.O. Box 1100
Rockville MD 20849-1100

DIRECTIONS FOR COMPLETING FORM

(Additional pages may be attached if more space is needed.)

GENERAL

- Use a separate form for each patient. Complete the form to the best of your abilities. Items 3, 4, 7, 8, 10, 11, and 13 are considered essential and should be completed whenever possible. Parents/Guardians may need to consult the facility where the vaccine was administered for some of the information (such as manufacturer, lot number or laboratory data.)
- Refer to the Reportable Events Table (RET) for events mandated for reporting by law. Reporting for other serious events felt to be related but not on the RET is encouraged.
- Health care providers other than the vaccine administrator (VA) treating a patient for a suspected adverse event should notify the VA and provide the information about the adverse event to allow the VA to complete the form to meet the VA's legal responsibility.
- These data will be used to increase understanding of adverse events following vaccination and will become part of CDC Privacy Act System 09-20-0136, "Epidemiologic Studies and Surveillance of Disease Problems". Information identifying the person who received the vaccine or that person's legal representative will not be made available to the public, but may be available to the vaccinee or legal representative.
- Postage will be paid by addressee. Forms may be photocopied (must be front & back on same sheet).

SPECIFIC INSTRUCTIONS

Form Completed By: To be used by parents/guardians, vaccine manufacturers/distributors, vaccine administrators, and/or the person completing the form on behalf of the patient or the health professional who administered the vaccine.

Item 7: Describe the suspected adverse event. Such things as temperature, local and general signs and symptoms, time course, duration of symptoms, diagnosis, treatment and recovery should be noted.

Item 9: Check "YES" if the patient's health condition is the same as it was prior to the vaccine, "NO" if the patient has not returned to the pre-vaccination state of health, or "UNKNOWN" if the patient's condition is not known.

Item 10: and 11: Give dates and times as specifically as you can remember. If you do not know the exact time, please indicate "AM" or "PM" when possible if this information is known. If more than one adverse event, give the onset date and time for the most serious event.

Item 12: Include "negative" or "normal" results of any relevant tests performed as well as abnormal findings.

Item 13: List ONLY those vaccines given on the day listed in Item 10.

Item 14: List any other vaccines that the patient received within 4 weeks prior to the date listed in Item 10.

Item 16: This section refers to how the person who gave the vaccine purchased it, not to the patient's insurance.

Item 17: List any prescription or non-prescription medications the patient was taking when the vaccine(s) was given.

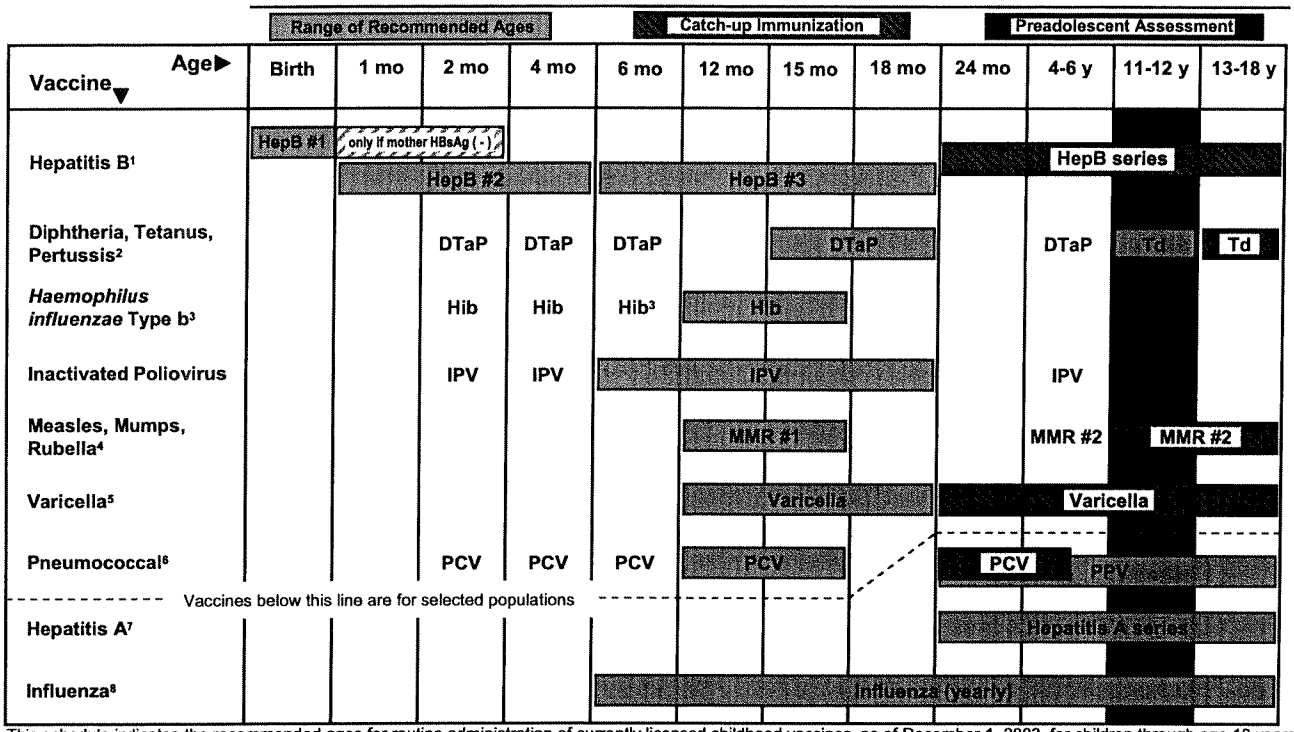
Item 18: List any short term illnesses the patient had on the date the vaccine(s) was given (i.e., cold, flu, ear infection).

Item 19: List any pre-existing physician-diagnosed allergies, birth defects, medical conditions (including developmental and/or neurologic disorders) for the patient.

Item 21: List any suspected adverse events the patient, or the patient's brothers or sisters, may have had to previous vaccinations. If more than one brother or sister, or if the patient has reacted to more than one prior vaccine, use additional pages to explain completely. For the onset age of a patient, provide the age in months if less than two years old.

Item 26: This space is for manufacturers' use only.

Recommended Childhood and Adolescent Immunization Schedule — United States, January – June 2004



This schedule indicates the recommended ages for routine administration of currently licensed childhood vaccines, as of December 1, 2003, for children through age 18 years. Any dose not given at the recommended age should be given at any subsequent visit when indicated and feasible. ■ Indicates age groups that warrant special effort to administer those vaccines not previously given. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations. Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete a VAERS form can be found on the Internet: http://www.vaers.org/ or by calling 1-800-822-7967.

1. Hepatitis B (HepB) vaccine. All infants should receive the first dose of hepatitis B vaccine soon after birth and before hospital discharge; the first dose may also be given by age 2 months if the infant's mother is hepatitis B surface antigen (HBsAg) negative. Only monovalent HepB can be used for the birth dose. Monovalent or combination vaccine containing HepB may be used to complete the series. Four doses of vaccine may be administered when a birth dose is given. The second dose should be given at least 4 weeks after the first dose, except for combination vaccines which cannot be administered before age 6 weeks. The third dose should be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the vaccination series (third or fourth dose) should not be administered before age 24 weeks.

Infants born to HBsAg-positive mothers should receive HepB and 0.5 mL of Hepatitis B Immune Globulin (HBIG) within 12 hours of birth at separate sites. The second dose is recommended at age 1 to 2 months. The last dose in the immunization series should not be administered before age 24 weeks. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) at age 9 to 15 months.

Infants born to mothers whose HBsAg status is unknown should receive the first dose of the HepB series within 12 hours of birth. Maternal blood should be drawn as soon as possible to determine the mother's HBsAg status; if the HBsAg test is positive, the infant should receive HBIG as soon as possible (no later than age 1 week). The second dose is recommended at age 1 to 2 months. The last dose in the immunization series should not be administered before age 24 weeks.

2. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose and the child is unlikely to return at age 15 to 18 months. The final dose in the series should be given at age ≥4 years. **Tetanus and diphtheria toxoids (Td)** is recommended at age 11 to 12 years if at least 5 years have elapsed since the last dose of tetanus and diphtheria toxoid-containing vaccine. Subsequent routine Td boosters are recommended every 10 years.

3. *Haemophilus influenzae* type b (Hib) conjugate vaccine. Three Hib conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB or ComVax [Merck]) is administered at ages 2 and 4 months, a dose at age 6 months is not required. DTaP/Hib combination products should not be used for primary immunization in infants at ages 2, 4 or 6 months but can be used as boosters following any Hib vaccine. The final dose in the series should be given at age ≥12 months.

4. Measles, mumps, and rubella vaccine (MMR). The second dose of MMR is recommended routinely at age 4 to 6 years but may be administered during any visit, provided at least 4 weeks have elapsed since the first dose and both doses are administered beginning at or after age 12 months. Those who have not previously received the second dose should complete the schedule by the 11- to 12-year-old visit.

5. Varicella vaccine. Varicella vaccine is recommended at any visit at or after age 12 months for susceptible children (i.e., those who lack a reliable history of chickenpox). Susceptible persons age ≥13 years should receive 2 doses, given at least 4 weeks apart.

6. Pneumococcal vaccine. The heptavalent **pneumococcal conjugate vaccine (PCV)** is recommended for all children age 2 to 23 months. It is also recommended for certain children age 24 to 59 months. The final dose in the series should be given at age ≥12 months. **Pneumococcal polysaccharide vaccine (PPV)** is recommended in addition to PCV for certain high-risk groups. See *MMWR* 2000;49(RR-9):1-38.

7. Hepatitis A vaccine. Hepatitis A vaccine is recommended for children and adolescents in selected states and regions and for certain high-risk groups; consult your local public health authority. Children and adolescents in these states, regions, and high-risk groups who have not been immunized against hepatitis A can begin the hepatitis A immunization series during any visit. The 2 doses in the series should be administered at least 6 months apart. See *MMWR* 1999;48(RR-12):1-37.

8. Influenza vaccine. Influenza vaccine is recommended annually for children age ≥6 months with certain risk factors (including but not limited to children with asthma, cardiac disease, sickle cell disease, human immunodeficiency virus infection, and diabetes; and household members of persons in high-risk groups [see *MMWR* 2003;52(RR-8):1-36]) and can be administered to all others wishing to obtain immunity. In addition, healthy children age 6 to 23 months are encouraged to receive influenza vaccine if feasible, because children in this age group are at substantially increased risk of influenza-related hospitalizations. For healthy persons age 5 to 49 years, the intranasally administered live-attenuated influenza vaccine (LAIV) is an acceptable alternative to the intramuscular trivalent inactivated influenza vaccine (TIV). See *MMWR* 2003;52(RR-13):1-8. Children receiving TIV should be administered a dosage appropriate for their age (0.25 mL if age 6 to 35 months or 0.5 mL if age ≥3 years). Children age ≤8 years who are receiving influenza vaccine for the first time should receive 2 doses (separated by at least 4 weeks for TIV and at least 6 weeks for LAIV).

For additional information about vaccines, including precautions and contraindications for immunization and vaccine shortages, please visit the National Immunization Program Web site at www.cdc.gov/nip/ or call the National Immunization Information Hotline at 800-232-2522 (English) or 800-232-0233 (Spanish).

Approved by the Advisory Committee on Immunization Practices (www.cdc.gov/nip/acip), the American Academy of Pediatrics (www.aap.org), and the American Academy of Family Physicians (www.aafp.org).

Enclosure (5)

ADULT DOSAGES AND ROUTES OF VACCINE ADMINISTRATION

(This abridged reference guide assumes proper and timely childhood and adolescent immunization administration, and adherence to clinical considerations in this notice.)

Vaccine	Initial Dose/Route	Booster Dose/Route	Comments
Anthrax	6 doses; 0.5 ml SC each, 0, 2, and 4 weeks, and 6, 12, and 18 months.	Annual, 0.5 ml SC	Consult current AVIP information
Hepatitis A	Varies with vaccine preparation	None	Refer to paragraph 7c of this notice
Hepatitis B	3 IM doses; 0, 1, and 6 months	None	Refer to paragraph 7d of this notice
Hepatitis A/B combination	3 IM doses; 0, 1, and 6 months	None	Refer to paragraph 7e of this notice
Inactivated Polio	1 dose; 0.5 ml SC	None	Refer to paragraph 7f of this notice
Influenza	1 dose annually	None, immunization with new vaccine required every year	Refer to annual influenza vaccine message
Japanese Encephalitis	3 doses; 1.0 ml SC; 0, 7, and 30 days	1 dose every 3 years for individuals who need to maintain immunity	Contact cognizant NEPMU
MMR (measles-mumps-rubella combination vaccine)	1 dose; 0.5 ml SC	None	Refer to paragraph 7i of this notice
Meningococcal (quadravalent)	1 dose; 0.5 ml SC	1 dose every 5 years	Refer to paragraph 7j of this notice
Pneumococcal polysaccharide (23-valent, PPV)	1 dose; 0.5 ml SC or IM	Consult package insert after 5 years if high risk	Refer to paragraph 7k of this notice
Rabies	Post-exposure: 5 doses; 1.0 ml SC each; 0, 3, 7, 14, and 28 days	None	HRIG with first dose. Contact cognizant NEPMU for pre-exposure prophylaxis

Vaccine	Initial Dose/Route	Booster Dose/Route	Comments
Smallpox (Vaccinia)			Refer to paragraph 7n of this notice
Tetanus-diphtheria (Td)	1 dose; 0.5 ml IM	1 dose every 10 years	Refer to paragraph 7o of this notice
Typhoid (live attenuated Ty21a)	4 doses; 1 capsule PO every other day	Repeat series every 5 years	Take with cool liquid, 1 hour before a meal. Refer to paragraph 7p of this notice
Typhoid (TYPHUM Vi)	1 dose; 0.5 ml IM	1 dose every 2 years	Refer to paragraph 7p of this notice
Varicella	2 doses; 0.5 ml SC; 4-8 weeks apart	None	For susceptible (Chickenpox) personnel without reliable history or documentation of varicella infection
Yellow Fever	1 dose; 0.5 ml SC	1 dose every 10 years	Refer to paragraph 7r of this notice

Recommended Adult Immunization Schedule by Age Group and Medical Conditions United States, 2003-2004

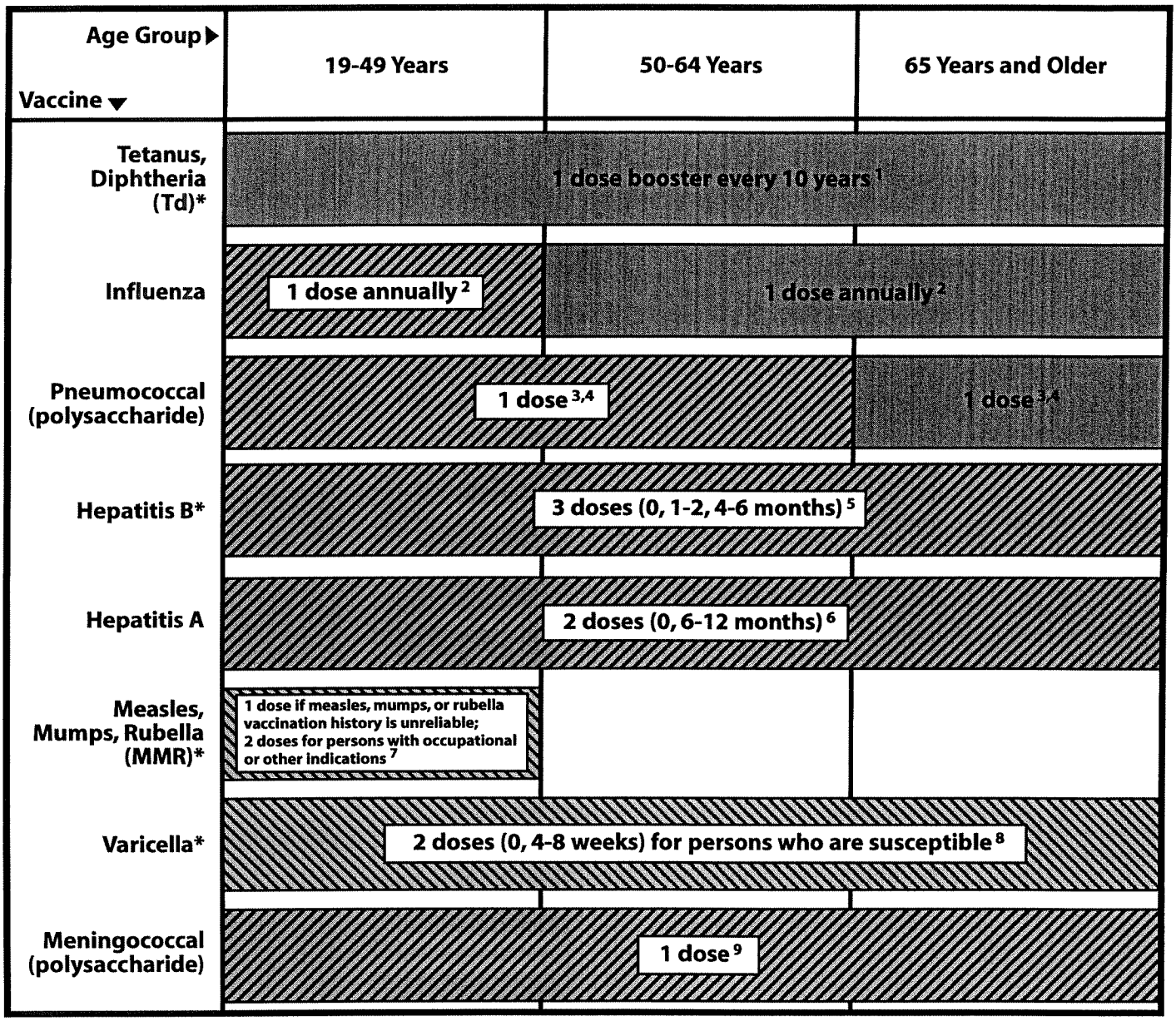
Summary of Recommendations Published by

The Advisory Committee on Immunization Practices

Department of Health and Human Services
Centers for Disease Control and Prevention

Recommended Adult Immunization Schedule, United States, 2003-2004

by Age Group



See Footnotes for Recommended Adult Immunization Schedule, by Age Group and Medical Conditions, United States, 2003-2004 on back cover

For all persons in this group | **Catch-up on childhood vaccinations** | **For persons with medical / exposure indications**

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*Covered by the Vaccine Injury Compensation Program. For information on how to file a claim call 800-338-2382. Please also visit www.hrsa.gov/osp/vicp To file a claim for vaccine injury contact: U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington D.C. 20005, 202-219-9657.

This schedule indicates the recommended age groups for routine administration of currently licensed vaccines for persons 19 years of age and older. Licensed combination vaccines may be used whenever any components of the combination are indicated and the vaccine's other components are not contraindicated. Providers should consult the manufacturers' package inserts for detailed recommendations.

Report all clinically significant post-vaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available by calling 800-822-7967 or from the VAERS website at www.vaers.org.

For additional information about the vaccines listed above and contraindications for immunization, visit the National Immunization Program Website at www.cdc.gov/nip/ or call the National Immunization Hotline at 800-232-2522 (English) or 800-232-0233 (Spanish).

Approved by the Advisory Committee on Immunization Practices (ACIP), and accepted by the American College of Obstetricians and Gynecologists (ACOG) and the American Academy of Family Physicians (AAFP)

Recommended Adult Immunization Schedule, United States, 2003-2004

by Medical Conditions

Medical Conditions ▼ / Vaccine ▶	Tetanus-Diphtheria (Td)*,[1]	Influenza [2]	Pneumococcal (polysaccharide) [3,4]	Hepatitis B*,[5]	Hepatitis A[6]	Measles, Mumps, Rubella (MMR)*,[7]	Varicella*,[8]
Pregnancy		A					
Diabetes, heart disease, chronic pulmonary disease, chronic liver disease, including chronic alcoholism		B	C		D		
Congenital Immunodeficiency, leukemia, lymphoma, generalized malignancy, therapy with alkylating agents, antimetabolites, radiation or large amounts of corticosteroids			E				F
Renal failure / end stage renal disease, recipients of hemodialysis or clotting factor concentrates			E	G			
Asplenia including elective splenectomy and terminal complement component deficiencies		H	E, I, J				
HIV infection			E, K			L	

See Special Notes for Medical Conditions below—also see Footnotes for Recommended Adult Immunization Schedule, by Age Group and Medical Conditions, United States, 2003-2004 on back cover

For all persons in this group | Catch-up on childhood vaccinations | For persons with medical / exposure indications | Contraindicated

Special Notes for Medical Conditions

A. For women without chronic diseases/conditions, vaccinate if pregnancy will be at 2nd or 3rd trimester during influenza season. For women with chronic diseases/conditions, vaccinate at any time during the pregnancy.

B. Although chronic liver disease and alcoholism are not indicator conditions for influenza vaccination, give 1 dose annually if the patient is age 50 years or older, has other indications for influenza vaccine, or if the patient requests vaccination.

C. Asthma is an indicator condition for influenza but not for pneumococcal vaccination.

D. For all persons with chronic liver disease.

E. For persons < 65 years, revaccinate once after 5 years or more have elapsed since initial vaccination.

F. Persons with impaired humoral immunity but intact cellular immunity may be vaccinated.
MMWR 1999; 48 (RR-06): 1-5.

G. Hemodialysis patients: Use special formulation of vaccine (40 ug/mL) or two 1.0 mL 20 ug doses given at one site. Vaccinate early in the course of renal disease. Assess antibody titers to hep B surface antigen (anti-HBs) levels annually. Administer additional doses if anti-HBs levels decline to <10 milliinternational units (mIU)/ mL.

H. There are no data specifically on risk of severe or complicated influenza infections among persons with asplenia. However, influenza is a risk factor for secondary bacterial infections that may cause severe disease in asplenics.

I. Administer meningococcal vaccine and consider Hib vaccine.

J. Elective splenectomy: vaccinate at least 2 weeks before surgery.

K. Vaccinate as close to diagnosis as possible when CD4 cell counts are highest.

L. Withhold MMR or other measles containing vaccines from HIV-infected persons with evidence of severe immunosuppression. *MMWR* 1998; 47 (RR-8):21-22; *MMWR* 2002; 51 (RR-02): 22-24.

Footnotes for
Recommended Adult Immunization Schedule by Age Group and Medical Conditions, United States, 2003-2004

1. **Tetanus and diphtheria (Td)**—Adults including pregnant women with uncertain histories of a complete primary vaccination series should receive a primary series of Td. A primary series for adults is 3 doses: the first 2 doses given at least 4 weeks apart and the 3rd dose, 6-12 months after the second. Administer 1 dose if the person had received the primary series and the last vaccination was 10 years ago or longer. Consult *MMWR* 1991; 40 (RR-10): 1-21 for administering Td as prophylaxis in wound management. The ACP Task Force on Adult Immunization supports a second option for Td use in adults: a single Td booster at age 50 years for persons who have completed the full pediatric series, including the teenage/young adult booster.
Guide for Adult Immunization. 3rd ed. ACP 1994: 20.

2. **Influenza vaccination**—Medical indications: chronic disorders of the cardiovascular or pulmonary systems including asthma; chronic metabolic diseases including diabetes mellitus, renal dysfunction, hemoglobinopathies, or immunosuppression (including immunosuppression caused by medications or by human immunodeficiency virus [HIV]), requiring regular medical follow-up or hospitalization during the preceding year; women who will be in the second or third trimester of pregnancy during the influenza season. Occupational indications: health-care workers. Other indications: residents of nursing homes and other long-term care facilities; persons likely to transmit influenza to persons at high-risk (in-home care givers to persons with medical indications, household contacts and out-of-home caregivers of children birth to 23 months of age, or children with asthma or other indicator conditions for influenza vaccination, household members and care givers of elderly and adults with high-risk conditions); and anyone who wishes to be vaccinated. For healthy persons aged 5-49 years without high risk conditions, either the inactivated vaccine or the intranasally administered influenza vaccine (Flumist) may be given.
MMWR 2003; 52 (RR-8): 1-36; *MMWR* 2003;53 (RR-13): 1-8.

3. **Pneumococcal polysaccharide vaccination**—Medical indications: chronic disorders of the pulmonary system (excluding asthma), cardiovascular diseases, diabetes mellitus, chronic liver diseases including liver disease as a result of alcohol abuse (e.g., cirrhosis), chronic renal failure or nephrotic syndrome, functional or anatomic asplenia (e.g., sickle cell disease or splenectomy), immunosuppressive conditions (e.g., congenital immunodeficiency, HIV infection, leukemia, lymphoma, multiple myeloma, Hodgkins disease, generalized malignancy, organ or bone marrow transplantation), chemotherapy with alkylating agents, anti-metabolites, or long-term systemic corticosteroids. Geographic/other indications: Alaskan Natives and certain American Indian populations. Other indications: residents of nursing homes and other long-term care facilities.
MMWR 1997; 46 (RR-8): 1-24.

4. **Revaccination with pneumococcal polysaccharide vaccine**—One time revaccination after 5 years for persons with chronic renal failure or nephrotic syndrome, functional or anatomic asplenia (e.g., sickle cell disease or splenectomy), immunosuppressive conditions (e.g., congenital immunodeficiency, HIV infection, leukemia, lymphoma, multiple myeloma, Hodgkins disease, generalized malignancy, organ or bone marrow transplantation), chemotherapy with alkylating agents, anti-metabolites, or long-term systemic corticosteroids. For persons 65 and older, one-time revaccination if they were vaccinated 5 or more years previously and were aged less than 65 years at the time of primary vaccination. *MMWR* 1997; 46 (RR-8): 1-24.

5. **Hepatitis B vaccination**—Medical indications: hemodialysis patients, patients who receive clotting-factor concentrates. Occupational indications: health-care workers and public-safety workers who have exposure to blood in the workplace, persons in training in schools of medicine, dentistry, nursing, laboratory technology, and other allied health professions. Behavioral indications: injecting drug users, persons with more than one sex partner in the previous 6 months, persons with a recently acquired sexually-transmitted disease (STD), all clients in STD clinics, men who have sex with men. Other indications: household contacts and sex partners of persons with chronic HBV infection, clients and staff of institutions for the developmentally disabled, international travelers who will be in countries with high or intermediate prevalence of chronic HBV infection for more than 6 months, inmates of correctional facilities. *MMWR* 1991; 40 (RR-13): 1-19.
(www.cdc.gov/travel/diseases/hbv.htm)

6. **Hepatitis A vaccination**—For the combined HepA-HepB vaccine use 3 doses at 0, 1, 6 months). Medical indications: persons with clotting-factor disorders or chronic liver disease. Behavioral indications: men who have sex with men, users of injecting and noninjecting illegal drugs. Occupational indications: persons working with HAV-infected primates or with HAV in a research laboratory setting. Other indications: persons traveling to or working in countries that have high or intermediate endemicity of hepatitis A.
MMWR 1999; 48 (RR-12): 1-37. (www.cdc.gov/travel/diseases/hav.htm)

7. **Measles, Mumps, Rubella vaccination (MMR)**—Measles component: Adults born before 1957 may be considered immune to measles. Adults born in or after 1957 should receive at least one dose of MMR unless they have a medical contraindication, documentation of at least one dose or other acceptable evidence of immunity. A second dose of MMR is recommended for adults who:
   - are recently exposed to measles or in an outbreak setting
   - were previously vaccinated with killed measles vaccine
   - were vaccinated with an unknown vaccine between 1963 and 1967
   - are students in post-secondary educational institutions
   - work in health care facilities
   - plan to travel internationally

   Mumps component: 1 dose of MMR should be adequate for protection. Rubella component: Give 1 dose of MMR to women whose rubella vaccination history is unreliable and counsel women to avoid becoming pregnant for 4 weeks after vaccination. For women of child-bearing age, regardless of birth year, routinely determine rubella immunity and counsel women regarding congenital rubella syndrome. Do not vaccinate pregnant women or those planning to become pregnant in the next 4 weeks. If pregnant and susceptible, vaccinate as early in postpartum period as possible.
MMWR 1998; 47 (RR-8): 1-57; *MMWR* 2001;50: 1117.

8. **Varicella vaccination**—Recommended for all persons who do not have reliable clinical history of varicella infection, or serological evidence of varicella zoster virus (VZV) infection who may be at high risk for exposure or transmission. This includes, health-care workers and family contacts of immunocompromised persons, those who live or work in environments where transmission is likely (e.g., teachers of young children, day care employees, and residents and staff members in institutional settings), persons who live or work in environments where VZV transmission can occur (e.g., college students, inmates and staff members of correctional institutions, and military personnel), adolescents and adults living in households with children, women who are not pregnant but who may become pregnant in the future, international travelers who are not immune to infection. Note: Greater than 95% of U.S. born adults are immune to VZV. Do not vaccinate pregnant women or those planning to become pregnant in the next 4 weeks. If pregnant and susceptible, vaccinate as early in postpartum period as possible.
MMWR 1996; 45 (RR-11): 1-36; *MMWR* 1999; 48 (RR-6): 1-5.

9. **Meningococcal vaccine (quadrivalent polysaccharide for serogroups A, C, Y, and W-135)**—Consider vaccination for persons with medical indications: adults with terminal complement component deficiencies, with anatomic or functional asplenia. Other indications: travelers to countries in which disease is hyperendemic or epidemic ("meningitis belt" of sub-Saharan Africa, Mecca, Saudi Arabia for Hajj). Revaccination at 3-5 years may be indicated for persons at high risk for infection (e.g., persons residing in areas in which disease is epidemic). Counsel college freshmen, especially those who live in dormitories, regarding meningococcal disease and the vaccine so that they can make an educated decision about receiving the vaccination. *MMWR* 2000; 49 (RR-7): 1-20.
Note: The AAFP recommends that colleges should take the lead on providing education on meningococcal infection and vaccination and offer it to those who are interested. Physicians need not initiate discussion of the meningococcal quadrivalent polysaccharide vaccine as part of routine medical care.

PREVENTIVE MEDICINE POINTS OF CONTACT

Navy Environmental and Preventive Medicine Units

Navy Environmental and Preventive Medicine Unit No. 2
1887 Powhatan Street, Norfolk, VA 23511-3394
Telephone: (757) 444-7671 DSN: 564-7671
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PLAD: NAVENPVNTMEDU TWO NORFOLK VA
Home Page: http://www-nehc.med.navy.mil/nepmu2/nepmu2_index.htm

Navy Environmental and Preventive Medicine Unit No. 5
3235 Albacore Alley, San Diego, CA 92136-5199
Telephone: (619) 556-7070 DSN 526-7070
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E-mail: nepmu5@nepmu5.med.navy.mil
PLAD: NAVENPVNTMEDU FIVE SAN DIEGO CA
Home Page: http://www.nosc.mil/usn/nepmu5

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E-mail: nepmu6@nepmu6.med.navy.mil
PLAD: NAVENPVNTMEDU SIX PEARL HARBOR HI
Home Page: http://nepmu6.med.navy.mil

Navy Environmental and Preventive Medicine Unit No. 7
PSC 812, Box 3540
FPO AE 09627-3540
Telephone: Commercial from within the US: 011-39-095-86-9251 DSN: (314) 624-9251
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Telephone: Commercial from within Europe: +39-095-86-9251
Fax: Commercial from within the US: 011-39-095-86-9252 DSN: (314) 624-9252
E-mail: nepmu7@nepmu7.sicily.navy.mil
PLAD: NAVENPVNTMEDU SEVEN SIGONNELLA IT
Home Page: http://www.sicily.navy.mil/nepmu7

Navy Environmental Health Center

Navy Environmental Health Center
620 John Paul Jones Circle, Suite 1100, Portsmouth, VA 23708-2103
Telephone: (757) 953-0700 DSN: 377-0700
Fax: (757) 953-0685 DSN: 377-0685
Clinical-Epi@nehc.mar.med.navy.mil
PLAD: NAVENVIRNHLTHCEN PORTSMOUTH VA
Home Page: http://www-nehc.med.navy.mil

Marine Corps Preventive Medicine Units

Commanding General
I Marine Expeditionary Force
Attn: Surgeon's Office G-4 Medical
Box 555300
Camp Pendleton, CA 92055-5300
Telephone: (760) 725-9152 DSN: 365-9152
Fax: (760) 725-8229 DSN: 365-8229
PLAD: CG I MEF
E-mail: spirajw@i-mef.usmc.mil
Web site: http://www.i-mef.usmc.mil/

Commanding General
II Marine Expeditionary Force
Attn: G-4 Health Service Support
PSC BOX 20080
Camp Lejuene, NC 28542-0080
Telephone: (910) 451-8948 DSN: 751-8948
Fax: (910) 451-8865 DSN: 751-8865
PLAD: CG II MEF//G4/MED
E-mail: mcannonce@iimef.usmc.mil
Web site: https://www.iimef.usmc.mil/website/iimefportal.nsf?Open

Commanding General
III Marine Expeditionary Force
Attn: G-4 medical branch
Unit 35605
FPO AP 96606-5605
Telephone: Commercial from within the U.S.: 011-81-611-722-7865 DSN: 315-622-7865
Fax: Commercial from within the U.S.: 011-81-611-722 -9019 DSN: 315-622-9019
PLAD: CG III MEF
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Web site: http://www.iiimef.usmc.mil/index2.asp

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Web site: http://www.hqmc.usmc.mil/health.nsf

CIVILIAN IMMUNIZATION INFORMATION RESOURCES

Routine Immunization

American Academy of Pediatrics (847) 228-5005
http://www.aap.org/healthtopics/immunizations.cfm (800) 433-9016

CDC's National Immunization Program (800) 232-7468
http://www.cdc.gov/nip/

National Network for Immunization Information (409) 772-0199
http://www.immunizationinfo.org/

Medline Plus (National Institutes of Health)*
http://www.nlm.nih.gov/medlineplus/immunization.html

Hispanic Immunization Hotline (CDC)* (800) 232-0233

* - Links to materials in foreign languages

Vaccine Companies

Aventis Pasteur
http://www.us.aventispasteur.com/vaccines/main.htm

Bioport (877) 246-8472
http://www.bioport.com/default.asp

Celltech/Medeva Pharmaceuticals
http://www.celltechgroup.com/

Chiron Therapeutics and Vaccines (800) 244-7668
http://www.chiron.com/

GlaxoSmithKline Pharmaceuticals (888) 825-5249
http://www.gsk.com/products/vaccines.jsp

MedImmune Vaccines (301) 398-0000
http://www.medimmune.com/

Wyeth Vaccines (800) 572-8221
http://www.vaccineworld.com/wv_home.asp

TERMS, ABBREVIATIONS, AND ACRONYMS

ACIP	Advisory Committee on Immunization Practices
ADSW	Active Duty for Special Work
ADT	Active Duty Training
AFEB	Armed Forces Epidemiological Board
AIDS	Acquired Immunodeficiency Syndrome
ASD(HA)	Assistant Secretary of Defense for Health Affairs
AT	Annual Training
CANTRAC	Catalog of Navy Training Courses
CDC	Centers for Disease Control and Prevention, Atlanta, GA
CEU	Continuing Education Unit
CSF	Cerebrospinal Fluid
DEERS	Defense Enrollment Eligibility Reporting System
DOD	Department of Defense
EL.U.	Elisa Unit
FDA	Food and Drug Administration
Hajj	The annual period of time when those of Islamic faith make their pilgrimage to Mecca
HAV	Hepatitis A Virus
HBV	Hepatitis B Virus
HCW	Health Care Worker
HIV	Human Immunodeficiency Virus
HRIG	Human Rabies Immune Globulin
IDT	Inactive Duty Training
IDTT	Inactive Duty Training Travel
IG	Immune Globulin
IM	Intramuscular
IPV	Inactivated Poliovirus Vaccine
JEV	Japanese Encephalitis Virus
MAP	Medical Augmentation Program
MMART	Mobile Medical Augmentation Readiness Team
MMR	Measles, Mumps, and Rubella
MTF	Military Treatment Facility
NAVENPVNTMEDU	Navy Environmental and Preventive Medicine Unit
NAVENVIRNHLTHCEN	Navy Environmental Health Center
NEHC	Navy Environmental Health Center
NEPMU	Navy Environmental and Preventive Medicine Unit
NIP	National Immunization Program, Center for Disease Control and Prevention

NOTAL	Not To All
NROTC	Naval Reserve Officer Training Corps
NSN	National Stock Number
PCS	Permanent Change of Station
PHS 731	U.S. Public Health Service International Certificate of Vaccination
SAMS	SNAP Automated Medical System
SC	Subcutaneous
SNAP	Shipboard Non-Tactical ADP Program
Td	Tetanus-Diphtheria Toxoid
TST	Tuberculin Skin Test
VAERS	Vaccine Adverse Event Reporting System
Varicella	Chickenpox
VIS	Vaccine Information Sheet